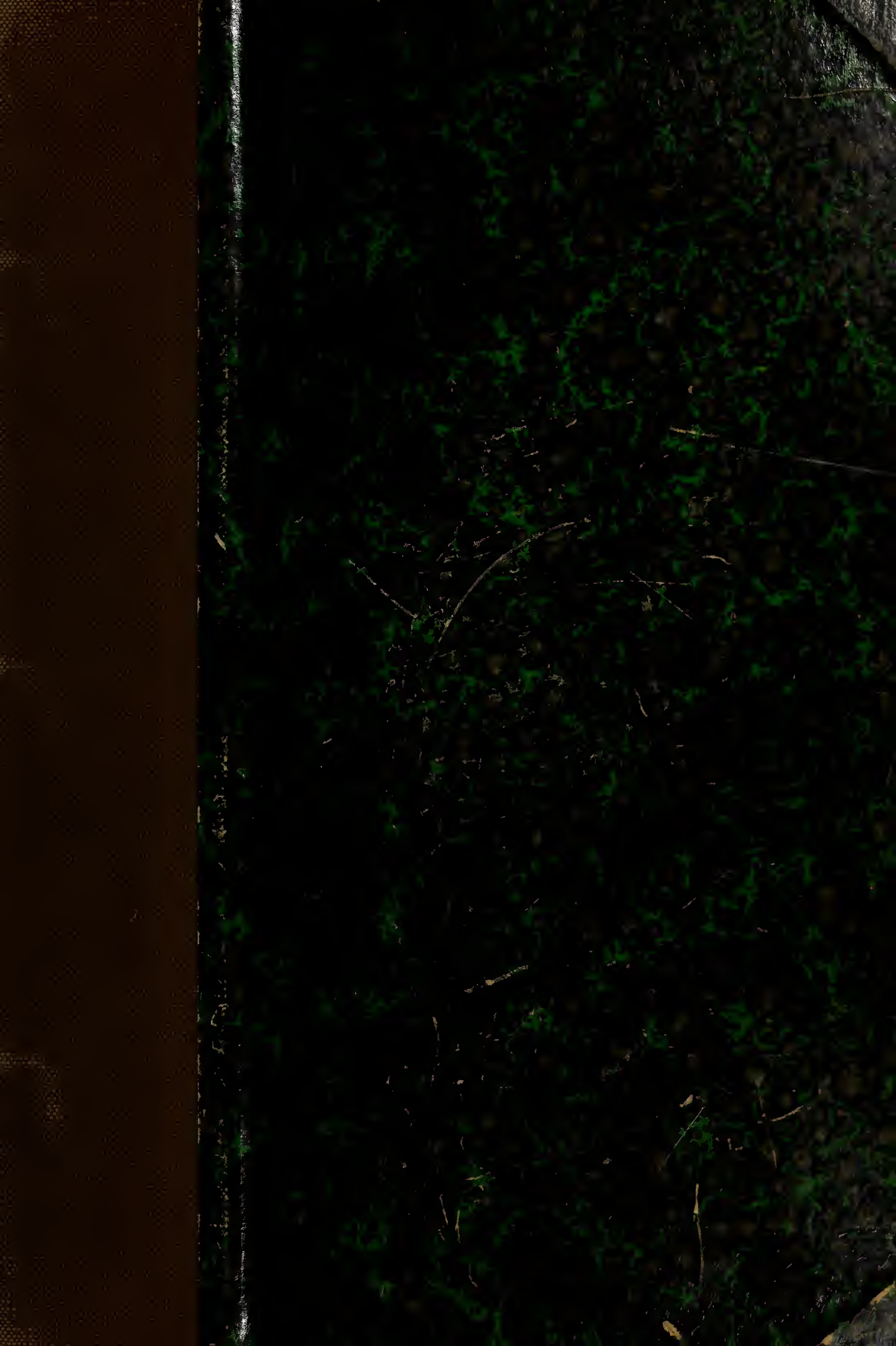

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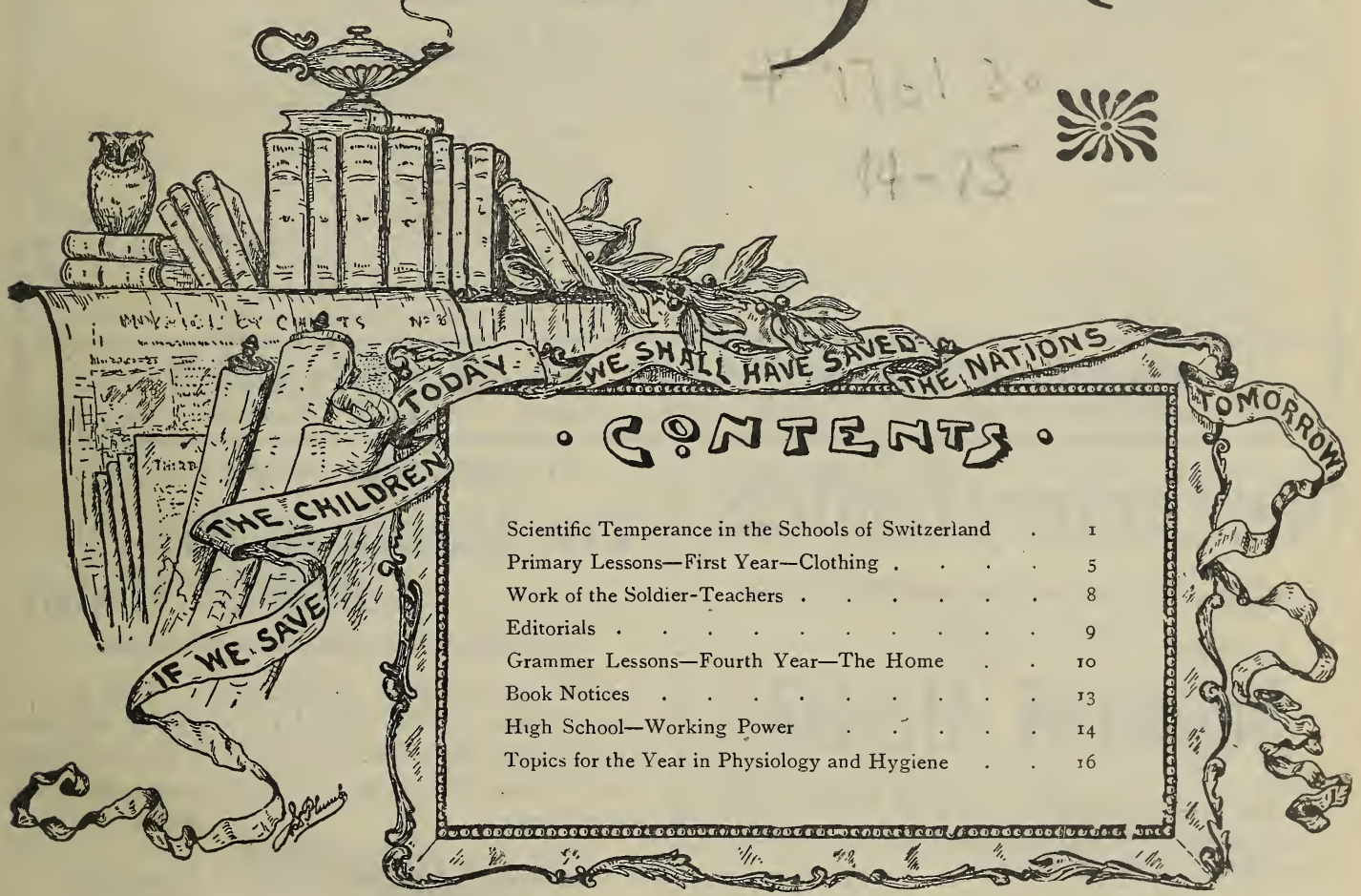

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VOL. XIV. NO. 1
SEPTEMBER, 1904

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School Physiology Journal

Vol. XIV *BOSTON, SEPTEMBER, 1904* *No. 1*

QUEEN SEPTEMBER

BY MARIANNE FARNINGHAM

WHO dare call Queen September old?
Her face is fair,
She does not stoop, she is not cold,
But debonair.

She claims, 'tis true, a longer night
For rest and sleep;
Nor will she who respects her sight
Late vigils keep.

But her blue eyes are clear as youth
When day returns,
And her cheek glows with love and truth
When evening burns.

Rich, jovial, clothed in gayest dress,
She spends the day,
And with large-hearted lavishness
She gives away

Gold for the gleaner, for the thrush
Harvests of food,
And for world-weary men the hush
Of quiet wood.

She cares for children in her prime,
And with them plays
The merry games of nutting-time
On royal days.

Yet wears her golden crown of state
On brow serene,
And bears herself erect, elate,
A charming queen.

SCIENTIFIC TEMPERANCE IN THE SCHOOLS OF SWITZERLAND

AN ADDRESS BY MR. HEYMANN, INSTRUCTOR AT MALLERAY

EVERYWHERE that Attila passed the grass never grew again, an historian tells us. Similarly, wherever alcohol, that modern Attila, has passed, it has swept away like a tempestuous wind all that the school had built up. It casts its malevolent shadow over our beloved country, all social ranks of which it has penetrated. Already it is attacking the reserves of the nation; our youth are becoming alcoholized.

WHAT IS EXPECTED OF THE SCHOOL IN GENERAL

Since alcohol amasses only ruins, demolishing the work of the school, destroying in man what is most beautiful, most noble, stifling in the individual the holiest aspirations, awakening in him bestial appetites, should not the school rightfully interest itself in the anti-alcohol movement? What is not expected of the school? Upon it rest all our hopes, and to it all look; from it will go out the nation of tomorrow, the priest and the peasant, the scholar and the business man, the legislator and the criminal.

What will the school do? It will be the compass indicating to the pilot his passage across the ocean of life. To accomplish this noble end, it will undertake a vigorous crusade against intemperance by organizing anti-alcohol instruction. "When we wish to make a new truth known to men, it is necessary to go to the youth; it is a long route, perhaps, but it is the surest."

THE INTRODUCTION OF SCIENTIFIC TEMPERANCE

We see nothing in the way of introducing into our classes occasional teaching against alcohol, on condition that it be officially included in the course of study. I shall only roughly sketch a plan by which, so far from overloading the course of study, this instruction will happily round out all branches on the program.

ITS CONNECTION WITH GEOGRAPHY

The study of geography takes us to the doors of the prisons, houses of correction, and state insane asylums. A short description of these establishments filled with unfortunate victims of drink will make the child reflect. A class visit to an asylum will lead the scholars to make resolutions to do everything possible to avoid ever becoming inmates.

It will be easy to enable the school to notice that certain cantons, (certain villages even) which hold the lowest place in the recruiting examinations owe that least honorable place to the intemperance of their inhabitants. "Normandy, glorious old Normandy, is on the decline," says M. Leon Deries, Manche Academy Inspector. "From 1850 to 1896, the Department of Manche lost 100,000 inhabitants. From 1896 to 1901, an added loss of 12,000 inhabitants—112,000 souls lying in the cemetery slain by alcohol. As for the living, they bear the infamous brand of the poison. Stature

decreases, the chest is growing narrow and with this degenerate race we are far, very far from those giants which conquered England, made old Charlemagne tremble, and recoiled only before the sword of Robert Le Fort."

Thousands of experiments have established the fact that in time of war as in peace, in all climates, the soldiers better endure the fatigue and privations when they are completely deprived of alcoholic drinks. These experiments have been made by the English in Africa, in Asia, and in America. Nansen's voyage of exploration was accomplished without the aid of alcoholic drinks.

The difficulty experienced by Europeans in becoming acclimated in deadly climates is due to the use, *even moderate*, of spirituous drinks.

ITS CONNECTION WITH PHYSIOLOGY AND HYGIENE

Temperance instruction is intimately connected with the lessons in physiology and hygiene. It is in this branch that the child must be given something besides a mass of incoherent ideas about the nature and effects of alcohol. In the course of the lessons, he will learn that alcohol is a poison which ought to appear only on the shelves of the apothecary from which it has come down.

In the study of the human body we shall also pass in review all the sad effects of spirituous drinks upon the organism. One will tell, will prove, and will repeat in class the facts that alcohol, so far from aiding digestion, retards and injures it; that alcohol often causes cancer of the œsophagus, stomach, and intestines; that it overworks the liver and is the source of various diseases in the entire digestive apparatus (cirrhosis, fatty degeneration, etc.); that it injures considerably the circulation of the blood, lowers the temperature of the body, paralyzes the nerves, and so far from giving strength acts in an unfavorable manner on the muscular system.

In this connection, several interesting experiments will confirm the theory explained by the master. World champions in all sports have proscribed all alcoholic drinks in their diet. Experiments made with the ergograph will be described in class. In connection with the deadly influence of alcohol upon the brain, it will be very useful to explain suitably and clearly the researches of Dr. Kræpelin, those of M. Emmanuel Bayr of Vienna, etc.

Thus the school will destroy forever the numerous prejudices so strongly rooted among our people who willingly believe that alcohol is an aid to digestion, an aperient, a food, that it warms, strengthens, heals, in short, that it is a universal panacea.

Concerning alcohol as a food, our children will not be much surprised to hear of M. Duclaux; but they will rather be of the opinion of Dr. Atwater who [now] affirms that alcohol is a very bad food, and of Dr. Metchnikoff who says that *alcohol is a poison.*

ITS RELATION TO CHEMISTRY

In chemistry one speaks of carbonic acid, of sugar, of fermentation, of alcohol. Here again it will be easy to touch the question of alcoholism.

ITS BEARING ON COOKING

It would be useful to teach the young girls in the cooking schools the worthlessness of alcohol. By her ignorance, the young wife is very often the direct or indirect cause of the depraved habits of her husband.

The school is not merely called upon to form phonographs and writing machines, it must forge characters, create individualities.

Let us broach the practical side of the question which we are considering, because it is not only a question of *instruction*, but also and especially of an anti-alcohol *education.*

ITS PLACE IN ECONOMIC PROBLEMS

Numerous economic problems which are almost totally lacking in our manuals would replace to advantage certain abracadabra combinations or the hectolitres to which reference is constantly made. The innumerable statistics available would be very useful to us in working out a host of examples with a bearing at once simple and practical.

1. Some one spends each day 5 cents for wine. How much does he spend annually (365 days)?

How many kilograms of bread (2.2 lbs) at 7 1-2 cents could he buy with that amount?

2. In 1902, the three insane asylums of the canton of Berne contained 1,432 lunatics, the expense for whom was $222,110. Among them 20 per cent were alcoholics. How much did it cost to support them?

3. In 1900, there were consumed in Switzerland 222,800,000 quarts of beer at 10 cents a quart. How much was that per household (there are 650,000 households in Switzerland)?

ITS PLACE IN READING-BOOKS

Some reading-books used among us contain a limited number of temperance selections. It is important that the essential and preferred book of the child put him on his guard against the baneful effects of the use of intoxicating drinks. It should include a goodly number of chapters which will form a complete résumé of the principal temperance truths, because it is indispensable that well co-ordinated ideas be given upon

this subject. The reading selections will be rounded out by the teacher's explanations.

ITS PLACE IN COMPOSITION

Compositions are sometimes so dry, the ideas they contain so strange and obscure that the correction of the exercises taxes the patience of the most devoted teacher. But if we try temperance subjects! Certain proverbs such as the following may be developed:

1. A falling house may be repaired, but not ruined health.
2. Young drinker, old beggar.
3. Temperance, comfort; alcoholism, pauperism.

Many dictation and grammatical exercises will be so many means of opening the eyes of the pupil to the disastrous consequences of intemperance.

ITS CONNECTION WITH LITERATURE

In connection with literature, it will be useful to call the attention of the class to the many men of superior abilities who have foundered at the bottom of the glass. "Need one recall the moral ruin of Musset?" or call to remembrance Hoffmann, the author of "Fantastic Tales," who was wont to seek cerebral excitation in wine? He was not a drunkard, M. Arvède Barine relates, and almost always stopped when he considered himself sufficiently set up. Yet early in life paralysis snapped him off. A sad human wretch, he was carried, like a helpless child, in the arms of a servant.

Biography always leaves ineffaceable impressions upon the open mind of the child. What lessons in citizenship the life of a Luther, a Franklin, a Livingstone affords!

One or two poems in good taste, having a temperance bearing, would certainly be an acceptable addition to our reading books.

ITS RELATION TO HISTORY

In history, it will be easy to speak of temperance in the primary as well as in the secondary schools. Many anecdotes, episodes, biographies, etc., lend themselves admirably to lessons of this kind.

National history: In the time of the Romans, corruption was great; some emperors were noted for their convivial orgies. Charlemagne was temperate in drinking and eating, especially in the former. Hating drunkenness in any man, he had an especial horror of it for himself and his family. Rudolf of Hapsburg tried to make himself popular by frequenting all the inns of the country.

In the fourteenth century, people began to meet at the public house to chat, to play and to drink; the inns were very numerous and one could drink all day at a cost of about 20 cents.

After the Burgundian wars, the mercenaries spent some years in foreign lands, whence they returned with habits of idleness and intemperance. Thefts and robberies committed by old soldiers increased in an alarming fashion.

"There is a harmony in autumn, and a luster in its sky
Which in the summer is not felt or seen."*

At the beginning of the fifteenth century, the noisy carnivals became widely extended. At the battle of Dornach the Imperials were drunk when the Confederates suddenly fell upon and completely routed them. At Mt. Gubel (1531) 4,000 men of Zurich, surprised while in wine, were defeated by 400 Zugois. Jenatsch was assassinated while at an inn at Coire where he was drinking and feasting. During the Thirty Years' War, the Swiss peasants grew rich, but became addicted to drink and gaming. At Vilmergen, the Bernese were well on the way to drunkenness when they were surprised by the Catholics. The shameful excesses of the French soldiers in 1798 are well known.

General history: At Athens, the laws of Solon were draconian to the point of punishing by death an archon found intoxicated. At Rome, under the Republic, wine drinking before the age of thirty was forbidden. The Egyptians, Assyrians, and Phoenicians were familiar with

*Courtesy of the Boston & Maine Railroad.

wine orgies. The irregularities of certain historic persons are well known: Marius, Alexander the Great, Wenceslas the drunkard, Philip the Good, Henry III., Louis XIV., Catherine II. The sobriety of Charles V., of Henry IV., of Charles XII. of Sweden, of Gustavus Adolphus deserves to be mentioned.

Alcohol caused ravages during the Thirty Years' War. It became the faithful companion of Napoleon First's soldiers whom it decimated in the fearful retreat from Russia.

Its influence has always played an important role in the most bloody periods of history. The streams of alcohol have always accompanied the streams of blood: the Jacquerie, the Prageric, the Fronde, the Fall of the Bastile, the Terror. "Alcoholic excitation certainly contributed to the agony of the Paris Commune. It is well known that during the siege, the consumption of 'petit bleu' was very great. The wine market had been stocked with several years' supply."

ITS CONNECTION WITH AMUSEMENTS

The school ought never under any pretext to tolerate the passing of alcoholic drinks to children at races or school festivals. The masters who arrange these festivities ought to carry all the responsibility; therefore they have the right to forbid children from carrying the poison with them. Moreover, our soldiers have to submit to such a restriction; why should the children have greater license? We know that the instructor will sometimes clash with certain town potentates, but one can be courageous in other places than on the field of battle.

THE ATTITUDE OF THE TEACHER

If the educator would strengthen the child's will, that lever of life, he must also get possession of his heart, the great motor of life. That is why it is necessary that the instruction of the teacher on this subject should be vital, captivating, communicable, because it is much less a matter of teaching than of convincing. The instruction that we are extolling ought to gush forth from a heart which is devoted, moved, taken possession of, believing.

The school will seek before all to entrench the doctrine of duty in a state of heart. For that it is necessary that the teacher be convinced of the alcoholic peril. We believe that when the teaching profession has studied to the bottom the question of alcoholism, it will be won to our cause. Therefore, let us consider what is necessary to ensure that the future teachers be prepared by the normal school for anti-alcohol instruction.

ITS PLACE IN HIGHER INSTITUTIONS OF LEARNING

"In our higher institutions of instruction, academies, universities, etc., alcoholism can be studied in every phase, because the evil which penetrates every domain of social and economic life ought to be attacked and combated from all sides, as well by the jurist and the philosopher as by the physician and the theologian."

The route of precepts is long, that of example the shortest and surest.

Shall we say it? The teacher ought to be in the community the apostle of temperance, we would willingly say of abstinence. The *example of the master* is capable of working miracles. Of what use will it be to prepare fine phrases and multiply good advice if the master sacrifices himself to the bottle?

RESULTS THAT MAY BE LOOKED FOR

Now what do we expect from this teaching? The fruits will have to be long awaited perhaps, but they will be so much the fairer at maturity.

If the teacher does not fail in his duty, in twenty years the future legislators whom we are preparing, now on the school bench, will save the country from an irremedial decay by voting the death decree of the *monster alcohol.*

We desire to declare to those who think that private initiative ought to maintain the combat against alcoholism, that the school has no right to fold its arms in the presence of candidates for suicide, for crime, and for madness. To the indifferent, we will say that they can not much longer remain in their sublime egotism, because vice with its shamelessness splashes us with mud at every step. As for the insincere and disingenuous who perhaps live on profits tainted by alcohol, we say to them quite plainly: One never asks slave dealers if they are abolitionists!

The school! That is the lever sought by Archimedes. We ask you to make the twentieth century the temperance century!

THE DANDELION

By Lillian Howard Cort

He smoothed with pride his yellow hair—
  He liked its color, vain young chap,—
And pitied Daisy just because
  She tucked hers in her snowy cap.

"Oh, oh," he cried, "my hair's so thick,
  I conldn't do that if I tried."
"You'd keep it longer if you did,"
  The Daisy with a smile replied.

Alas, her words were all too true,
  For left uncovered day and night,
The sun and rain beat on his head
  And turned his golden locks to white.

And soon a dreadful thing occurred,
  At which the Daisy looked appalled,
A blustering wind swept by, and lo!
  He left the poor old fellow bald.

Primary Lessons

FIRST YEAR

CLOTHING

HOW children should be dressed, and of what material their clothing should be made are questions belonging primarily to the home rather than to the school; yet, so close is their relation to the health and therefore to the entire wellbeing of the child, that they well deserve a place in the course of study.

Even in primary grades, the subject of clothing can not be talked over without the children absorbing many helpful ideas which will be reported at home and acted upon by the mother.

The state is beginning to realize that the health as well as the education of its future citizens is a matter of moment, and in the public school the teacher represents the state.

Round shoulders and the protruding hip that indicates incipient curvature of the spine, to say nothing of illshaped feet and an awkward gait, may all be due, in part at least, to illfitting clothing and, in so far as this is true, can be easily remedied if taken in time. We teachers, then, must use our influence toward having what the child wears as perfectly adapted to his size and shape as is the modern seat on which he sits, and the desk at which he works.

Give the children themselves a chance to talk about dress; not to arouse vanity, or their envy of those who can afford to dress better than they, but to enable them to know what suitable clothing is, how it protects the body and may affect its shape, and how it should be taken care of.

(1)

OUR NEED OF CLOTHING

Choose either a very warm day or one that is decidedly cool on which to begin the talk on clothing in this grade. The topic then naturally suggests itself.

Suppose it is a sultry September morning, when little faces are damp with perspiration and even thin garments seem oppressive.

Have ready a plentiful supply of pictures with which to illustrate the points you wish to bring out. Many of these are suggested in the lesson which has been developed below, and others will be thought of by the teacher as she thinks over what she is to teach.

Such pictures need involve no outlay of money. They can all be cut from papers and magazines, and will serve the purpose intended as well as more elaborate and expensive illustrations.

Show a picture of Cuban or Filipino children who have on little or no clothing. Tell the class where these children live. Ask if they think those countries are warm or cold. Why do you think they are warm?

Hold up the picture of an Eskimo child, dressed in furs from head to foot, and let the children talk about it.

Does this little girl (or boy) live in a warm or cold country? How do you know? Why does she need to wear furs?

What time of the year do we like to wear very little clothing? When do we want thick coats and dresses and warm shoes and stockings?

Have ready the picture of a dog with long shaggy hair, or sketch one on the board. Better still, ask some child who has a pet dog of this kind at home to bring him to school on the day you are to take up this topic.

Talk about the hair covering of the dog. Why does he not need to wear clothes as people do? What kind of a coat does he have to keep him warm in winter?

Tell the children why the dog sheds his hair so freely in warm weather,—because he does not need such a heavy coat in summer and is more comfortable without it. Sometimes he is sheared like a sheep, if his coat is very long and heavy.

Let the children name other animals besides the dog that have a covering of hair instead of having to wear clothes.

Name something alive that wears a feather dress. What animal wears a dress made of wool? one of fur?

What are our clothes made of?

Show pieces of cotton, woolen, and linen cloth, and explain to the children how we can tell one kind from another. Then help them to decide of what material their own coats and caps and dresses are made.

Where does the wool come from of which our clothes are made? Where does the cotton come from? the fur? the silk? the linen? the leather of which our shoes are made?

Show pictures of cotton and flax growing in a field, and if possible bring samples of the raw material into class for the children to look at.

How many of you like to pull off your shoes and stockings and go barefooted awhile on a hot summer day?

Every boy and girl likes to do that. How soft and cool the grass feels to your feet! But sometimes you are very glad to have good warm shoes and stockings to put on. Name one such time.

Why are you glad to have shoes and stockings to wear in the winter? Why do you want them on when you have to walk on sharp stones, or in rough places?

Our clothes protect the other parts of our bodies as well as our feet. They help to keep off the hot sun in summer and the cold winds in winter. They help to keep us from being hurt when we fall, or when we run into things.

SOMETHING TO REMEMBER

We need thick clothing to keep us warm in winter.

We need thin clothing to keep us cool in summer.

Every bird and animal has some kind of a dress.

This may be made of fur, or wool, or hair, or feathers.

Most of our clothing is made of wool, or cotton, or linen.

In very cold countries, people wear clothes made of fur.

Our clothes protect the body and help to keep it from getting hurt.

(2)

WHAT TO WEAR

Adaptation, first to weather, and then to occupation, should be the deciding tests as to the kind of clothing to be worn by any one, and this is the leading thought to be brought out in the lessons on this topic.

Let the class look at the pictures of Archie in his funny playtime costume, shown on page 7. Then tell the story of how this little boy was dressed for different occasions.

A MISCHIEF-MAKER

What Archie liked best was to be doing something all the time. It did not matter much what it was, he could have pretty good fun at anything.

But what he did not like at all was being dressed up in his best clothes, and having to sit still, even for two minutes.

When Archie made mud pies in the backyard, or played in the sand pile, or drew stones in his little wheelbarrow, he wore his play clothes.

He could get them as dirty as he liked and nobody ever said a word, because they were made to play in.

But mother used to look pretty sober when he sat down in the road to play with a clean white suit on. One day when he soiled his clean clothes in this way, he had to stay at home while mother went to call on the cousins without him.

Mother felt as bad as Archie about that, so she thought of a better plan next time. She made Archie a pair of overalls that covered the little fellow all up, from his head to his heels.

After that, whenever he wanted to play when he had his best clothes on, the overalls went on top of everything else, and he was just as ready for fun as when he wore his every-day suit.

An old hat of brother's covered up his curls to keep them from getting mussed, and when he had the footstool strapped around his neck for a hurdy-gurdy, there was no happier boy in town.

If it rained when Archie wanted to go outdoors, mother would put on his rubbers and little waterproof coat, and out he would go carrying his own tiny umbrella, though he did not care whether he got wet or not.

"I'm better off than the birds," he told his mother one day, "because I have clothes for play days, and rainy days, and dress-up days, and they have to wear the same ones all the time. But I like the play clothes the best."

LESSON TALK

Let us make believe we can have as many clothes as we want. What shall we choose first?

What kind of clothing shall we choose to play in? It will need to be made of stout material. Who knows why?

We shall prefer to have it of some dark color. Why not white?

What shall we choose to wear on rainy days?

What shall we do with our overshoes and rubbers as soon as we come into the house? Of course we do not want to keep them on then, because they are no longer needed, and because rubber is too heating to wear indoors.

What would you choose for your best clothes? When are such clothes to be worn? How are they to be taken care of? We must try to keep them clean when we have them on, because it takes somebody a long time to wash and iron them after they have been soiled.

SOMETHING TO REMEMBER

We need different kinds of clothes to wear at different times.

Our play clothes should be made of stout cloth, so they will not tear easily.

They should be of some dark color, so they will not easily show soil.

We should have rubbers to wear when it is wet, and overshoes to wear in cold weather.

Coats and hats and rubbers that are worn outdoors should be taken off and put away when we come into the house.

We should take good care of our school clothes and our best clothes and try to keep them clean and neat.

(3)

HOW CLOTHING SHOULD BE WORN

How many of you know just how to wear your clothes? You all know that gloves and mittens belong on your hands, and that shoes and stockings go on your feet. But that is not all.

Ready for fun

We must be careful to have all our clothes fit just right, so that no part of the body is pinched or pushed out of place.

Put your hands on your shoulders and feel how strong they are. These are the parts of the body to bear the weight of the clothes.

Every girl's skirts should be buttoned to a waist and hung from her shoulders. Every boy's trousers should be kept up in the same way.

We do not need tight belts about the waist to keep our clothes in place, and we should never wear them. If we do, the body trunk can not grow as it ought to do. Then, too, they might help to make our bodies crooked and ill-shaped.

Here is a sheet of brown paper for each of you. Put it on the floor. Now take off one of your shoes and place your foot on the paper.

Take a pencil and draw a line all around your foot. If you have done it well, you will see just the shape of your foot on the paper.

Set your shoe on the drawing. Is it just the same size and shape? Is it larger or smaller? This will tell you whether you are wearing the right kind of shoes.

Bad-fitting shoes make the feet ill-shaped. Sometimes they cause ugly corns which it will take a long time to cure. Let us all try to keep our feet as smooth and well shaped as a little baby's are.

SOMETHING TO REMEMBER

We need to have all our clothes fit us just right. They should not be too tight or too loose.

Our shoulders, and not our waists, are made to hold up our clothes.

We should never wear tight bands or belts about our waists, or about any other part of the body.

Our shoes and gloves should fit our feet and hands.

Too tight shoes will spoil the shape of our feet. Too tight gloves will make the hands red.

(4)

CARE OF CLOTHING

The happiest boy in town

A story telling how some other child learned to take care of her clothes, will often help to make little ones thoughtful and careful of their own garments.

A PEEP INTO GERTRUDE'S BEDROOM

Would you like to look into Gertrude's bedroom after she is fast asleep? We must step very softly so as not to wake her up.

Her room was neat and tidy when she went into it to go to bed, and so it is now.

When she took off her clothes, she did not leave them in a heap on the floor. She shook them out and hung each one up by itself to air.

Her dress is on the back of a chair, where it

will not get mussed. Her skirts and other underclothes hang over the foot roll of the bed.

Her shoes and stockings are on the floor under the edge of the bed.

We see only one thing that is not just as it should be. She has rolled up her stockings and tucked them into her shoes. What would be a better way?

When Gertrude gets up in the morning she finds her clothes fresh and nicely aired, ready to put on. Then she hangs up to air what she has worn during the night, so these will be ready for her when night comes again.

Gertrude looks very nice when she starts for Sunday school, in her clean white dress, and hat with the blue ribbons on it.

But she knows it took mother a long time to iron the dress, so when she comes home she takes it off and hangs it up on the hook in the closet, and puts on her gingham dress. Then she is not afraid of having anything happen to her best clothes.

SOMETHING TO REMEMBER

It is not a good plan to wear the same clothes at night that we have worn during the day.

When we take off our clothes at night, we should shake them out and hang each piece up by itself to air.

Then our clothes will be fresh to put on again, and not smell sweaty.

During the daytime, we need to air the clothes we have worn at night, for the same reason.

If we take off our best clothes and hang them up before going out to play, they will last longer and look nicer.

We are helping mother and saving her work when we try to take care of our clothes.

WORK OF THE SOLDIER-TEACHERS

THE first American army of occupation in the Philippines contained teachers as well as soldiers. Education followed the flag wherever it was carried. The first people to teach English on the islands were officers and enlisted men in General Merritt's forces, and the work of the soldier-teacher was an important preliminary to the invasion of the organized force of teachers who came later.

The result of the work of the American educators is summed up in the statement that more English is spoken today in the islands than was Spanish after the 400 years of régime of Spain. The Spaniards encouraged a Babel of dialects. They believed that a common language would make the natives too dangerous.

The whole significant story of what American teachers have done is told in the educational exhibit in the Manila cathedral on Plaza Santa Cruz. Here will be found exhibits ranging from crude blocks of wood turned in the Moro industrial school in Zamboanga, Mindanao, where little savages are taught their "A B C's," to learned theses on sociological questions by students in the Manila Normal School, where Filipinos are taught how to teach. Hundreds of letters from Filipino pupils are part of the collection. These letters are to be distributed to teachers visiting the exhibit, and it is believed that a correspondence will ensue of equal interest and value to the American and Filipino pupils.

It is less than three years since the first transport with its cargo of American teachers arrived in Manila. Today there are 2,900 schools, with over 200,000 pupils in the primary schools alone. The force of 800 American teachers has been supplemented by thousands of intelligent native pedagogues, all teaching the young idea of the coming generation of Filipinos the wonders and the language of the United States.

THE TEACHER'S MISSION

To capture the citadel of the child's mind through love and sympathy; to lead pupils toward higher ideas of life and duty; to establish closer relations between home and school and state; to exalt purity of life and conduct; to strengthen the moral tone of the community; to make good men and women; to establish and dignify the profession of teaching; to make education attractive; to magnify the state; to meet the need for educated citizenship: such is the exalted mission of the teacher.

CHARLES R. SKINNER.

AN AUTUMN SONG

BY CLINTON SCOLLARD

Again the old heraldic pomp
Of autumn on the hills;
A scarlet pageant in the swamp;
Low lyrics from the rills;
And a rich attar in the air
That Orient morn distills.

Again the tapestry of haze
Of amethystine dye,
Encincturing the horizon ways;
And from the middle sky
The iterant, reverberant call
Of wild geese winging by.

Again the viols of the wind
Attuned to one soft theme—
Here, every burden left behind
Of love, would it not seem
A near approach to paradise
To dream, and dream, and dream!

—*In Woman's Home Companion.*

School Physiology Journal

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HENRIETTA AMELIA MIRICK, Assistant Editor

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"Now all the lovely wayside things
Their white-winged seeds are sowing;
And in the fields still green and fair,
Late aftermath are growing."

AFTER VACATION

RAILROAD stations thronged with happy, sunburned vacationists and a great silence fallen upon streets and parks where, for weeks, the children have been wont to congregate tell a story of vacations ended and of a return to workaday life.

Many a bright thread of joy, of knowledge, of inspiration from great minds, of better acquaintance with nature and with people has been woven into the fabric of life by these swift-flying shuttles of summer days. If the threads have been thoughtfully chosen and carefully woven, the fabric will be a permanent joy to the possessor and to all beholders.

Watch the children as they come back to you and if, perchance, you find in their summer's weaving a dark, imperfect, or unworthy thread, guide them to better choices and more careful weaving. There can be no poor threads or dropped stitches in the fabric of life, if it is to be worthy of its Designer.

CARPE DIEM

DR. ALFRED RUSSELL WALLACE, in his recent book, "The Wonderful Century," enumerates fourteen inventions and practical applications of science and nearly the same number of theoretical discoveries in the nineteenth century, while he finds only a far smaller number of similarly great achievments in all prevlous centuries.

In the moral and social spheres, the nineteenth century was similarly pre-eminent, and whoever is at all observant of the great currents of the life of the race can hardly fail to perceive that the twentieth century is to be one of social consciousness, a period in which the material developments of the past are to be merely the stepping-stones upon which the race will rise to better things.

It is not without significance that the world-wide movements against alcohol and other narcotics have even thus early in the century attained great proportions. Humanity must not only have its stepping-stones, but it "must lay aside every weight" if it is to climb to the heights of its possibilities. The waste of mental and moral powers entailed by drink, the expenditure of forces necessary to care for its physical, mental, moral, and economic results constitute a great and constant hindrance to the rapid progress of the race, and it is a good omen that all civilized nations are beginning to recognize the fact and to try to relieve the race of this incubus.

In this effort the school must lead if it is to maintain its boasted position in the vanguard of civilization. Mr. Heymann, in the closing paragraphs of his address, printed elsewhere in our columns, strikes a fine note as to the unavoidable responsibility of the school in making the twentieth century notable as the one in which humanity shall cast off this awful incubus of alcohol and other narcotics which now hampers it in every direction.

"At the moment, the immense importance of the opportunity is hardly ever understood."

It will be to the shame of the teachers of this generation if, twenty-five or fifty years hence, their successors can look back and say that the educators of today failed to understand the immense importance of the opportunity afforded them of carefully and systematically training their pupils to habits of intelligent sobriety. Every bit of heedlessness or indifference in this training now is a mortgage on the work of future educators which they will have to discharge with compound interest. The work is certain to be done sometime, and we believe the educators of today are large-hearted enough, patriotic enough, and Christian enough to do their share of it earnestly and thoroughly.

If you have not already done so, this is the time of the year to organize the year's work in physiology and hygiene. Working to a carefully thought out plan is the secret of success in this as in other undertakings. It saves time, mental wear and tear, and enables the teacher to concentrate her energies and those of her pupils on the main issues. The object of this study is the formation of habits of healthful living. Surely this is worth carefully planning for. Hap hazard, badly-graded moralizing will not secure it. Study the subject, select your objective points, plan how to develop them, then work to your plan, and success is yours.

Grammar Lessons

FOURTH YEAR

THE HOME

ONE of Christ's parables clearly shows the uselessness of trying to get rid of bad habits without at the same time forming good habits to take their place. Our duty is but half done when we have warned children against questionable practices and places of resort. We must provide substitutes that will be not only harmless but elevating.

In the denser parts of a community and in isolated rural districts alike, the child nature craves pleasure and the opportunity to have a good time. This natural instinct must be gratified by wholesome means to prevent its seeking outlets that are unwholesome and debasing.

Men have attempted to solve this problem in very different ways. A certain class have taken it for granted that the saloon in our day is inevitable, and confine their efforts to softening and refining its worst features. Wiser ones are devoting their energies to proper instruction of the rising generation, and to making school and home surroundings so attractive that there will be little temptation for them to seek the saloon.

Such a man as Mr. Riis can already point to the worst tenement in New York City utterly wiped out, and its place occupied by a beautiful little park; to playgrounds established and schoolrooms opened outside of school hours for the use of boys' and girls' clubs; to light and air and sunshine and growing plants introduced into the darkest and most hopeless quarters of the city.

On the other hand, the most that can be hoped for from the "Subway Tavern" and others of its stamp is that they will furnish a retreat where young people may learn to drink "respectably." They offer no guarantee that these same young people will not form habits which must make them feeders of places where respectability is neither sought nor desired; they do absolutely nothing to remove temptation from the young or to make virtue attractive. On the contrary, they increase the number of saloons that already exists.

Our country's hope for the future lies in the stability of the home and the school and their products, not in the saloon and its products. When the first have been made all they should be, the last excuse for the other will have disappeared.

It is the object of this lesson to show the purpose and universal need of the home, and the part which young people rightly have in its making.

THE PURPOSE OF THE HOME

Children look upon the home as existing as a matter of course. It does not occur to them, unless suggested, that there are reasons for its establishment and maintenance. By showing what these reasons are, we have taken the first step to enlist their interest and enthusiasm in helping to make the home what it should be.

First of all, the home is a place of shelter from storms and too great heat and cold. It is also a protection against robbers and wild animals.

If we walk about in the daytime on a farm, or in the woods, or even through city streets, we see all sorts of birds and animals. If we take the same walk at night, we see only a very few living things, or perhaps none at all. What has become of them?

Ask some one in the class to describe a bird's nest that he has seen, and tell how it answers the purpose of a home. Another, who has at some time found a squirrel's hole or a rabbit's burrow, may explain how each serves as a home for the little creature it shelters.

Why is home as a place of shelter especially necessary for such people as the Eskimos? Show a picture of their snow huts, and let the class find how such a home is the best possible one for people who live in very cold climates.

Why would an Eskimo house be of no use to people living in hot countries? What kind of houses makes the best shelter there? Show pictures of native dwellings in the tropics, and let the class compare them with those in polar countries already examined.

Tell about the early settlers in this country and some of the pioneers of the great west; or read a brief account in some history of the dangers they experienced from savages and wild animals. Why did these people need homes? How were they built? Why close together? Why often made of logs? Show pictures.

In what ways are our homes different from any of these just talked about? What do we

need shelter from? It is not so cold here as in the far north, and not so hot as it is near the equator. There are very few wild beasts to attack us, aud every city has its police to arrest burglars and keep them from robbing or injuring us.

Another purpose of the home is to bring the family all together at some time during the day.

When are all the family together in your home? Where do they separate after breakfast? What different kinds of work are they engaged in? How often do you think you would see your fathers or older brothers, if they had no home to come to at night after the day's work is done? There is no other place where we can all meet and really get accquainted with one another, except in the home.

Here, too, we have a chance to learn to be kind and thoughtful of others.

them discover the answers sought in this way, rather than entirely by themselves. But as soon as possible every child in this grade should learn to get information for himself from the printed page. Too much dependence on the teacher represses initiative and unduly prolongs the period of infancy.

Take up again the question of the interior of an Indian's wigwam, after the class have found out what they can about it. Bring out ways in which this is different from our homes.

Has it as many rooms as our houses have? Why not? What rooms do we think are necessary in a house? Why do we need a kitchen? a bedroom? a bathroom? a diningroom? a cellar? closets? a parlor?

What rooms does an uncivilized Indian need? What rooms can he get along without? Name some of the furniture he would be likely to have

A well kept home

OUR NEED OF THE HOME

What would you expect to find if you should go into an Indian wigwam?

Refer the class to histories and geographies for this grade, or to other books in the school library that tell how a wigwam is furnished. As children just entering the grammar school have little knowledge of books and still less of how to use them, they should be given full directions as to how to find this topic, or any other.

Select the books yourself, choosing those written in story form and in simple language, and place them beforehand on a table in the schoolroom.

Give the class the name of the book and the page to which they are to turn to find the matter sought.

With some classes it may be necessary to read the selected passage aloud at first, letting

in his hut? What furniture do we need in each room in our houses?

Why do civilized people require more furniture than savages? Sometimes we go into homes that have too many things in them, things that are neither useful nor pretty, and that only gather dust and make more work for those who take care of the home. The best rule is to have only furniture that is useful in some way or is so beautiful in itself that every one likes to look at it.

OUR PART IN MAKING THE HOME

Cleanliness and order are two of the largest factors in making home pleasant. That children are quick to realize this fact is shown by the eagerness with which they accept invitations to visit in such homes, and by their preference for a well-appointed schoolroom in the midst of pleasant surroundings.

It is only fair to point out that all such homes are *made* pleasant by some one. They do not become such by chance.

Ask some of the children in what homes, other than their own, they would rather live. Let them tell as well as they can why they like the homes they have mentioned. Are they clean and orderly, or mussy? Who keeps them looking nice?

What different kinds of work have to be done in our own homes every day? Refer to the necessary work done in the kitchen in preparing food and clearing it away; to the work required to keep the bedrooms and living rooms of the house in order, all of which must be attended to every day by members of the family or by servants.

Is any unnecessary work ever made in and about the home? How? By whom? What can each of us do to avoid making such work? Speak of cleaning the feet before entering the house; of putting away one's personal belongings when through with them, instead of leaving them scattered about where they were last used; of opening one's own bed in the morning, etc.

Read to the class or tell them of ways in which even unsightly homes and surroundings have been made beautiful by cleaning up yards and roadsides; by mending broken gates or fences; and by replacing weeds or bare earth by green grass and flowers.

Ask the children to look at their own home surroundings when they go home at night and be ready next day to tell some way in which these can be improved. Many of the current magazines contain pictures showing ugly spots which have been thus transformed and made attractive at little or no expense in money.

Tell about the village improvement societies that have been formed in many places, and suggest that your pupils form a home improvement society. Help them to decide what the duties of each member of such a society would be.

Help the class to devise games and amusements that are suitable for the home, especially those in which all members of the family can join.

Our habits have a great deal to do with making the home happy or unhappy.

Name all the habits you can think of that would help to make any home a good place to live in. Name habits that tend to make unhappy homes.

If the tobacco habit is not mentioned as one of the latter class, the teacher should not fail to call attention to it, bringing out ways in which this habit is sure to be disagreeable to some in the family, even if not always to all.

No one can smoke in the home without polluting the air that others must breathe. It is very seldom, too, that any one chews tobacco without soiling the floor or some article of furniture, or the grass in the yard so that no one can sit or even walk on it without soiling the clothes.

The tobacco user usually grows more and more careless about his personal appearance. Let the class, without mentioning names, give instances which they personally have noticed, such as neglect of the teeth and nails, of frequent bathing, change of clothing and the like.

The tobacco user is increasingly selfish and regardless of the rights of other people. Call for illustrations of this fact that different members of the class have seen. Suggest others yourself. For instance, a young man who has just begun to smoke usually asks ladies whom he is with if smoking is disagreeable to them, before he lights his cigar or cigarette. After he has had the tobacco habit for some time, he ceases to be thus courteous and smokes whether others are made uncomfortable by it or not.

Who are the boys of whom one likes to ask a favor in the home, because they are quick to respond? Why are cigarette smokers seldom or never among the number? In what other ways are such boys often selfish and impolite?

Every one in the class knows the old song "Home, Sweet Home." Tell the children something about the author, John Howard Paine, the man who said he never had a home. Leave with the class the closing thought that there is one thing even worse than not having a home, and that is to abuse the one we have by taking all it has to give and making no return, or worse than none.

Little Perry and his playmate, Willie, had been playing school, when suddenly Perry climed upon a high box and exclaimed:

"Look, Willie, I am going to high school.

Little Chronicle.

"Regal splendors of the fall
Deck the fields and wayside all,
In a gracious opulence."

"Ned," said his father, as the small student came home from school, "which do you like best, arithmetic or geography?"

"I think I like geography best, because arithmetic is just a little too thinksome.

Little Chronicle.

AFTER VACATION

BY NORA PERRY

Here they come, the happy crew,
Merry monarchs through and through ;
Laughing, chattering, all together,
In the red-leafed autumn weather.

Once again the streets are gay
As a gypsy's holiday :
Once again has life begun
Fresh and fair beneath the sun.

Yesterday the toiling town
Dull with care was bending down ;
Now today it lifts its head,
For today dull care has fled.

Ready for the Kindergarten*

Vanished for the moment quite,
At the sudden sound and sight
Of this heedless, happy crew,
Merry monarchs through and through.

What to them the cares that weigh?
'Tis the breaking of their day,
When, across the morning skies,
Only rainbow hopes arise.

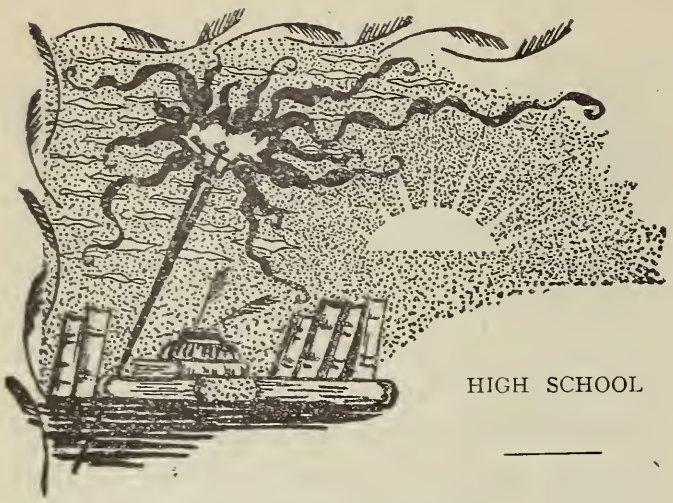
Theirs to be the lot and part
Of bold conquerors at the start ;
Every dragon fear and doubt,
Lion-hearted, they will rout.

BOOK NOTICES

THE ARISTOCRACY OF HEALTH, by Mary Foote Henderson. $1.50 net. The Colton Publishing Company. Washington, D. C.

In the nearly 800 pages of "The Aristocracy of Health," we have one of the notable books of the day. Starting with the study of tobacco and the long list of favorite poisons by which the human race has again and again been deceived to its own hurt, the author clearly shows that the relation between the nature of these poisons and the degeneracy of the drinker is that of cause and effect. Each of these poisons is discussed at length and the special ways in which it upsets physiological law and order noted. Degeneracy in other countries is considered, problems of diet are discussed, and finally means of relief, and the hope, through education, of a return to healthful living. It is refreshing to find Mrs. Henderson's clear distinction between food and poison, helpful grapes and harmful wine, etc., and to note the admirable way in which she exposes the fallacy of safety in moderate drinking. The book is eminently readable, clear and forceful in style, and a mine of information to the many who would be glad to return to a simpler, healthier life if they knew the way.

*Courtesy of the *Home Missionary Magazine*



HIGH SCHOOL

WORKING POWER

TO be well born is the best start in life one can receive. But it is not necessary to despair if deprived of this advantage. It is our duty to find the good that does exist, and so improve and build upon this foundation as to help the youth to rise superior to inherited tendencies and to perform their part in life manfully and with success.

One who accomplishes little may still be held in esteem by his family and friends, but to the world at large a man is valuable only in proportion to his working power, or what he can contribute to the general welfare.

This contribution may be through brain or muscle or conscience, but whatever the form it takes it constitutes the man's chief claim to the consideration of others. The object of education is to make this stock in trade as large as possible.

During the high school course, and even earlier, the great majority of young people must decide to what use they are to put their working power, and strive to make it increasingly effective. Whatever this choice may be in any particular case, all need the healthy body that comes from a practical knowledge of physiology and hygiene ; hence, the relation of health to working ability is first to be considered.

ITS RELATION TO HEALTH

It will be a good plan for high school pupils to begin work in physiology by reviewing the general structure of the body, with a view to finding how it is adapted to the many different kinds of work it must do.

With this thought in mind, let them study first the varieties of tissue which make up the body, bony tissue, muscular tissue, nervous tissue, etc., finding how these differ in chemical composition, in structure, and in function, why each is necessary, and what each contributes to the working power of the individual.

The next topic may be how the different parts of the body are fastened together, and how their movements are directed to enable them to form a useful whole. Call attention to the unskilfulness of every part of the body at first. The little child can not walk, or even put out his hand in the direction he wishes. All his movements are uncertain. Compare this with the precision of the trained worker. Find what makes the difference. How is skill in any kind of work acquired? how maintained?

It is equally important to know what will injure or retard muscular power, and keep one from reaching a high degree of skill. Make a careful study, in this connection, of the old delusion that alcoholic drinks help one to do more and better work than he could do without them. How has this notion been disproved by modern science? Make a similar study of the effects of tobacco.

ITS RELATION TO MENTAL TRAINING

A great problem of the high school is how to hold its pupils throughout the course and induce as many as possible to continue their studies in college or technical school. It can be solved only by showing that mental training has a direct bearing upon working power, and thus upon efficiency and success.

Many a youth at sixteen, by leaving school, can get the pay of an unskilled man, while if he stays in school he gets nothing and is on expense. At the same time, the unskilled worker gets no higher wages at 40 than at 20, while the worker with a trained head as well as a trained hand is increasingly valuable.

See that every high school boy and girl gets this thought; then show that working power is added to by mental training in two ways: first, by studies that bear directly upon the kind of work one means to do in the world; and, second, by studies that first of all broaden and develop the student himself, giving him greater power in all directions. All studies that meet one or both of these tests have a rightful place in every schoolroom. Those that do not should give place to others. How does the study of physiology and hygiene fulfil both requirements?

ITS RELATION TO MORAL CONVICTIONS

Develop this topic largely through illustrations. A carpenter may build a beautiful house, but if the foundations are weak, or if it is out of the perpendicular, the higher and more massively it is reared, the surer its downfall. An explorer may have all the equipment necessary to reach the Pole, but he will never attain his object if his compass deviate ever so little from the true north.

So, working ability, no matter how great, has only a negative value if controlled by wrong motives and devoted to ignoble ends. Superb health and mental ability must be joined to an enlightened conscience to make up the truly noble and achieving man and woman.

AUTHORITATIVE QUOTATIONS

Nothing whatever in physiological chemistry authorizes us to admit that alcohol has a favorable influence on muscular work. Bunge asserts the effects felt are only a symptom of brain paralysis, a benumbing of all feeling of weariness. —E. Destree, M. D., University of Brussels.

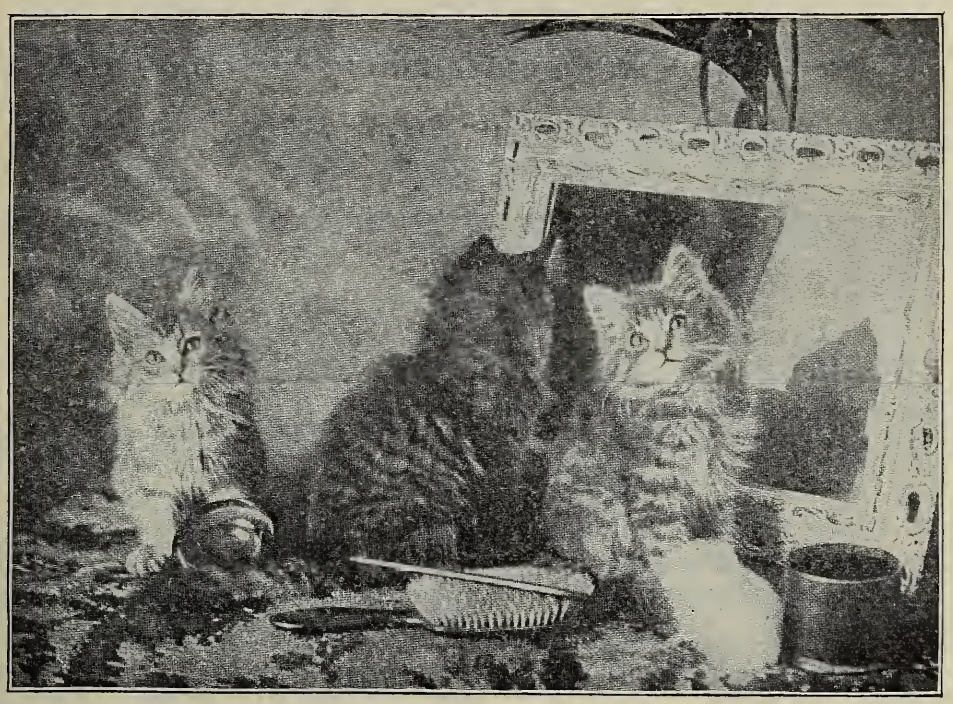
It is quite an exploded idea that alcohol is of any assistance in difficult work or under special strain: in fact, it is proved by experience that better work is done when alcohol is not used. This is the unanimous opinion of observers with regard to exposure to great cold. It seems certain, also, that not only is heat less well borne, but that heat stroke is predisposed to by the use of alcohol. As to severe bodily work, we know that athletes when undergoing training give up the use of alcohol, and records point to the fact that soldiers enjoy the best health when cut off from alcohol in any form.—W. Grimshaw Bigger, M. D., M. R. C. S.

A man feels and thinks himself strong after he has taken some alcohol. Many experiments have been made with regard to this action of alcohol, and the result has invariably proved that at first there is a transient increase of strength, very quickly followed by a loss. We have therefore, the *feeling* of strength gained, with the *reality* of strength lost. Remember, if you are ever tempted to take alcohol when fatigued, that you do so at considerable risk. First, you will be more tired afterward; second you will be tempted to do more than you have actual strength for; third, you will have a transient slight increase of strength for which you will have to pay the penalty of loss of reserve force. Finally, remember that the proper thing to do when fatigued is to rest and to take food.—A. G. Miller, M. D., F. R. C. S. E.

Whenever it is desired to secure the highest possible working ability by the organism, tobacco is one of the first substances forbidden. —J. W. Seaver, M. D.

The idea that tobacco gives increased power to endure either physical or mental hardships is one of the greatest delusions of the age.—Thomas G. Roberts, M. D.

Whether tobacco is smoked or chewed, it has an extremely harmful effect upon men who are engaged in severe physical exertion, and not least so when the supply of food is not abundant. Tobacco has not only an injurious influence upon the digestion, but it lessens the strength of the body, and reduces capacity for endurance and tenacity of purpose—The *Medical Pioneer*.



Our faces are washed our hair combed too,
Why can't we go to school with you?

SEPTEMBER

Such days deep hid in woodland ways—
Each morn a lover's story;
Such silvery maze of white moon rays—
Each night a lingering glory.

Such days with asters all ablaze,
Such splendid purple weather;
Such pomp of praise from maple sprays—
And Love and I together.

Such days half veiled in violet haze,
Who pauses to remember
The winning ways of vanished Mays
When he has you, September.

Alice E. Allen.

	Grade I.*	Grade II.*	Grade III.*	Grade IV.	Grade V.	Grade VI.	Grade VII.	Grade VIII.	High School.
Sept.	External needs of body: clothing, shelter, sunshine.	Behavior at table, at home, on street, in school.	How the body is covered: care of skin.	The home: our need of it; our care of it.	The body's need of food and drink.	Review work of fifth year.	The senses as a source of knowledge.	Review work of seventh year.	General structure of the body.
Oct.	Internal needs of body: pure air, food, drink. Danger in wine, beer and cider.	Body as a whole compared with that of animals. Why made of parts.	How the body is moved: use and care of muscles.	Exercise and rest. Play. Work. Study.	Things that are not foods. Fermentation and action of alcoholic drinks.		Tobacco and narcotics.		General processes of the body.
Nov.	Body as a whole: what we can do with it. Position.	Exercise and rest. Growth and repair. Cigarettes.	How the body is held upright: uses and care of bones.	Body as a whole. Parts of body. Uses. Care.	The body's need of cleanliness. Uses and care of skin.	The digestive system of the body.	The brain and nerves.	Nutrition of the body.	Sensation.
Dec.	Growth. Harm in cigarettes.	Wholesome food and drink.	Exercise and rest. How to sit and stand.	Control of body: brain and nerves.	The body's need of exercise in work, play, study. Rest and sleep.	The circulatory system of the body.	The muscles.	The process of digestion.	Body control.
Jan.	Activities of the body. Rest. Sleep.	How we find out things: sense of sight.	How the body is kept alive: heart and lungs.	Movements of body: muscles. Cigarettes.	The body's need of a framework.	The respiratory system of the body.	Bones and joints.	The process of circulation.	Nutrition.
Feb.	Parts of body used in play and work: arms, hands, fingers.	Sense of touch. The skin and cleanliness.	How the body is controlled: brain and nerves.	Needs of the body. Why not alcoholic drinks?	The body's need of a muscular system.	The excretory system of the body.	Body training and care.	The process of respiration.	Fermentation. Bacteria. Narcotics.
Mar.	Parts of body used in moving about: legs, feet, toes.	Sense of hearing. Sense of smell.	How the body may be hurt by alcoholic drinks and tobacco.	Digestion. Circulation.	The body's need of vital organs, heart, lungs, etc.	The controlling system of the body.	Body cleanliness.	The processes of absorption and assimilation.	Personal hygiene.
Apr.	Parts of body necessary to life: head and trunk.	Sense of taste. Things not to be tasted.	How the body is fed. Kinds of food. Table manners.	Respiration. Skin and cleanliness.	The body's need of pure air.	Body waste and repair.	Body building. Cells and tissues.	The process of excretion.	Household hygiene.
May	Care of face, hands, nose.	Beer, wine, cider. The teeth. The voice.	How food becomes part of the body: Work of teeth, stomach, blood.	Special senses. Body framework.	The body's need of watchmen: special senses.	Enemies of the body.	Suitable and unsuitable beverages.	Fermentation.	Municipal and national hygiene.
June	Reviews.	Reviews.	Reviews.	Reviews.	Reviews.	Reviews.	Reviews.	Reviews.	Reviews.

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The School Physiology Journal

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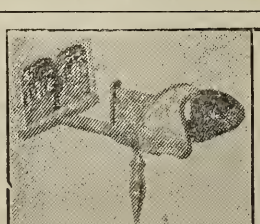

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School Physiology Journal

Vol. XIV *BOSTON, OCTOBER, 1904* *No. 2*

THE GOLDEN CORN

BY EDNA DEAN PROCTOR

The rose may bloom for England,
The lily for France unfold;
Ireland may honor the shamrock,
Scotland her thistle bold;
But the shield of the great Republic,
The glory of the West,
Shall bear a stalk of the tasseled corn,
Of all our wealth the best!

The arbutus and the golden-rod
The heart of the North may cheer,
And the mountain laurel for Maryland
Its royal clusters rear;
And jasmine and magnolia
The crest of the South adorn;
But the wide Republic's emblem
Is the bounteous, golden corn.

EDUCATION FOR EFFICIENCY

BY CHARLES WILLIAM ELIOT

President of Harvard University

BY efficiency I mean effective power for work and service during a healthy and active life. This effective power every individual man or woman should desire and strive to become possessed of, and to the training and development of this power the education of each and every person should be directed. The efficient nation will be the nation made up, by aggregation, of individuals possessing this effective power, and national education will be successful in proportion as it secures in the masses the development of this power, and its application in infinitely various forms to the national industries and the national service.

This education for efficiency is not a training which should cease with youth. On the contrary, it should be the work of the whole life. All education at every stage comprehends two processes—the training of powers and the acquisition of knowledge.

Childhood and youth are the time for acquiring new mental processes and functions, and for exercising and strengthening the memory. The child initiates new processes of thought and establishes new mental habits much more easily than the adult; but the adult, with trained powers, has an immense advantage over the child in the acquisition of information. The important thing in childhood is, therefore, to train the child in as large a variety of mental processes as possible, and to establish as many useful habits as possible.

During this training an immense body of information will be incidentally acquired, but not so rapidly as the same person grown up can acquire it. Many an adult reader with trained habits of attention and concentration will absorb the contents of a book with a speed and retentiveness which no child can approach.

The debate over the proper selection of studies in youth has been a long and wearisome one; but at last two propositions are seen to command almost universal acceptance.

The first is that children and young people should study the elements of a considerable variety of subjects, such as language, mathematics, history, natural science, sanitation, and economics; not with the primary purpose of obtaining information on those subjects, but in order that they may sample several kinds of knowledge, initiate the mental processes and habits appropriate to each, and have a chance to determine wisely in what direction their own individual mental powers can best be applied.

TRAINING OF THE SENSES

The second is that training for power of work and service should be the prime object of education throughout life, no matter in what line the trained powers of the individual may be applied.

I take up first the training of the bodily senses and the care of the body. The training of sight, hearing, smell, taste, and touch has been neglected in education to a most extraordinary degree. Indeed, school and urban conditions of life have actually impaired on a great scale the sense of sight—that best window of the soul. Quickness and accuracy in all the senses are of high value to the individual throughout life; and in innumerable cases some slight but unusual superiority in one or more of the senses becomes the real basis of success in life.

The skill of most good mechanics depends on the sure co-operation of a practiced eye and a practiced hand. Most successful surgeons possess, as the basis of their success, an unusual accuracy of sight and touch, combined with a sure memory in regional anatomy and a presence of mind which no emergency can perturb. The locomotive engineer, or the motorman on an electric car, needs a short time-reaction; that is, the interval between his sight of a signal, or of an object that presents itself sudden-

ly, and the corresponding action of his hand and body must be very brief. This is a bodily quality which must be combined with a steadiness of mind and an indefatigable alertness.

The training of the ear should come through reading aloud, reciting prose and poetry, and music. Education should try to increase systematically pleasures through the ear, to compensate for the horrid noises of an urban life.

The sense of smell deserves a careful training, for it is the daily source of keen gratifications, the frequent renewal of mental associations, and the best natural protector against corrupted food, drink, and air.

CARE OF THE BODY

While the body is under training, and after it has been trained, it requires a steady and intelligent care which education for efficiency should systematically teach.

We have just begun to provide medical inspection for children and medical visitation for older students, and to teach systematically the elements of personal hygiene and municipal sanitation. There is no longer any excuse for neglect of these subjects. Twenty-five years ago the medical profession did not know how to prevent the spread of typhoid fever or malarial fever, or how to combat diphtheria, or appendicitis, or tuberculosis. Now medical science knows how to limit these evils, and can do much to prevent their destructiveness.

Within the same period, the knowledge of civilized mankind concerning diets and the regimen of health has increased prodigiously, and the means of heating and ventilating houses, factories, and meeting places have been wonderfully improved. To teach all these things in the whole community should be an important part of education for efficiency, for sickness suspends the efficiency of the individual and premature death destroys it, and when such losses are multiplied by the million the national efficiency is gravely impaired.

If education can succeed in prolonging the period of individual productiveness, and in preventing the breaks in that productiveness which sickness causes, it will thereby increase the total national productiveness and efficiency. It will also add greatly to the public happiness.

Within recent years we have had abundant evidence in our own country and in many other countries that the most effective labor, and the cheapest in proportion to its product, is found where the laboring classes live comfortably, develop their intelligence, and widen their prospects. It is not the cheapest labor that is the most profitable, but the best fed and lodged, the healthiest, the most intelligent, and the most ambitious.

As a rule, the comparison of the educated man of 60 with the same man of 20 is wonderfully encouraging with regard to the average effects on human beings of education and the discipline of life; but such an optimist will confess, if he is candid, that bodily excellencies and virtues count very much toward this favorable result. It seems to me, as I review the life failures I have witnessed, that the only cases of hopeless ruin are those in which the body has first been ruined through neglect or vice, or was congenitally perverted and made the victim of criminal propensities.

If, through drink or licentiousness or other vicious habits, the body of an educated man is ruined, there may be no recovery possible for that individual in this world; but whenever the body has escaped destruction and remains in tolerably sound condition there are few moral wrecks which may not be, to all seeming, completely repaired in this world. These considerations emphasize strongly the importance of making the means of protecting, caring for, and improving the body an important part of education for efficiency.

HABITS OF ATTENTION

The next thing which education for efficiency should attend to is the imparting of the habit of quick and concentrated attention. Without this habit there can be no true economy of time. A prolonged attention is not natural to children, and should not be demanded of them; but quick and concentrated attention may reasonably be expected for brief intervals from every child, and as the age increases the possible period of close attention will grow longer and longer.

The difference between adults in mental efficiency is chiefly a difference in this very power of concentrated attention. The man who has this power will grasp quickly new subjects presented to him. He will do in one minute the work for which an inferior man will need five minutes or five hours. He will effect in every day of his life a great economy of time. There will be no dawdling or vague dreaming in the action of his mind.

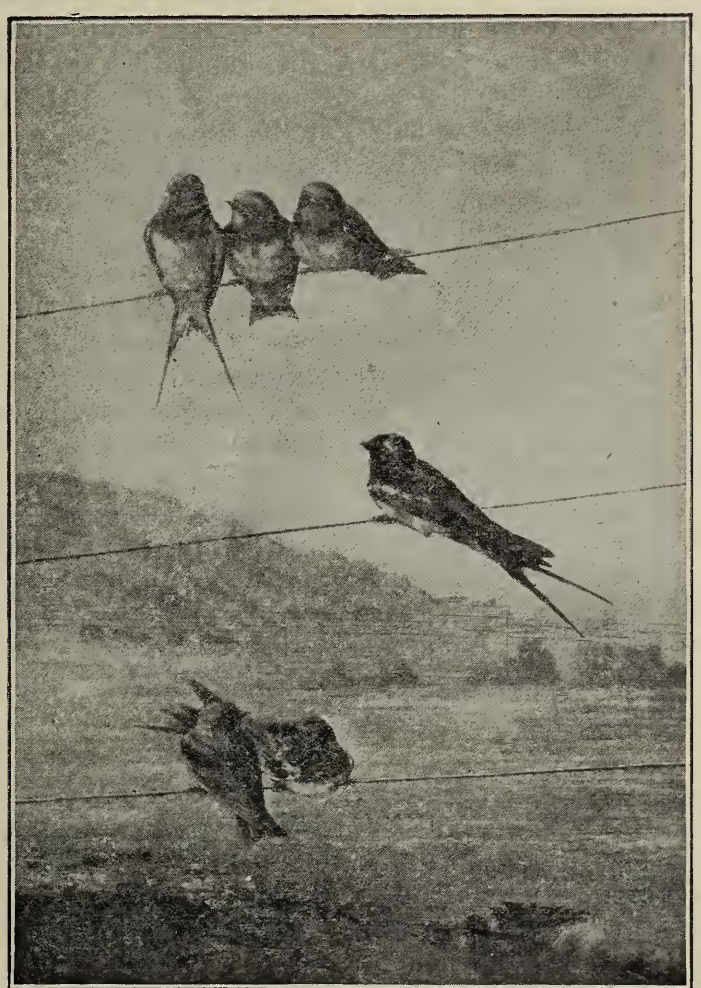
The great thinkers and doers, philosophers and inventors, soldiers and rulers are alike in possessing in the highest degree this power of concentrated attention; and in common men and women this is the most valuable of all mental faculties. To rouse, awake, and inculcate this power in the child and the youth should be a principal object in training for efficiency.

We say of the child in whom this power does not seem to exist that he can not apply himself, that he can not be made to study, or that he does not set his mind at work. For every such child the main problem is to discover the means

of interesting him in a mental occupation enough to induce him to concentrate his attention. Skill in discovering the means of interesting the childish mind enough to compel attention is characteristic of the good teacher. If oral instruction does not gain a close attention, perhaps books will; if books fail, carpenter's tools, cook's tools, a lathe, an embroidery frame, or a forge may succeed; if mechanical work does not rouse the mental forces, perhaps drawing or modeling will; if all other means fail, the training of the power of attention may be begun through music.

POWER TO THINK

It may seem strange to say so, but it is perfectly plain to persons who have been carefully observing the rising generations that education for efficiency must especially endeavor to induce young people to think. The efficient man is the man who thinks for himself, and is capable of thinking hard and long. This is a process which requires motive and will power. Out in the world the motives are often pleasure in the exercise of power, or satisfaction in the getting of money or what money can buy. The problem education for efficiency has to solve is how to stimulate young people to think in the absence of these pressing motives of the real world.



"When autumn scatters his departing gleams,
Warn'd of approaching winter, gather'd, play
The swallow people."

One available motive is supplied by experience of the enjoyment or satisfaction which good thinking yields to the thinker; but this motive can be roused to activity in the study of only those subjects which have a natural interest for the young thinker. Hence, the importance of discovering early those subjects for each individual.

Another motive is the conviction that winning the best satisfactions of later life will depend on possessing this power to think. It is this conviction which converts a listless undergraduate into a diligent student at law or medicine. The teacher, the parent, or friend can often do much to implant this conviction and to guide the pupil into the enjoyment of thinking.

The influence which develops the necessary motive in the thinking child or youth is, in most cases, a personal influence which is partly stimulus, but more example. This influence should rather lead than drive; for the personal initiative in thinking is indispensable. The fortunate child is the one who gets at home this inspiration and guidance toward thinking. This power comes almost unconsciously to the child that grows up in a thoughtful home; but such homes are rare, indeed. If the home can not yield this influence, the next thing to hope for is that the child may come under the influence of a teacher who thinks and inspires thinking.

ABILITY TO SEE WHAT IS GOOD

Another leading object in education for efficiency is the cultivation of the critical discernment of beauty and excellence in things and words and thoughts, in nature and in human nature.

We associate the word "criticism" with the discernment of defects and inferiorities, and the mind we ordinarily call critical is apt to have a keener scent for faults, mistakes, and offenses than for merits, wise judgments, and right actions; but the faculty for discerning quickly and surely excellencies and virtues in persons, peoples, nature, and art is an immeasurably more valuable and useful faculty than the faculty for seeing weaknesses and sins. It ought to be carefully and incessantly cultivated by school, college, and the experience of life, for it is capable of contributing greatly to the happiness as well as to material success. The faculty of discerning and using conspicuous merit in other people distinguishes the most successful administrators, rulers, and men of business.

WISE ENJOYMENT OF LIBERTY

Another faculty which all schools and col-

leges, all churches and all social institutions should cultivate incessantly is the judicial faculty for the wise enjoyment of liberty. For savage or semi-civilized men, and for some children who pass through barbaric stages of development, authority is needed to restrain them from injuring themselves or others; but the diminishing part played by authority in the family and the commonwealth, and the increasing room and need for individual liberty are characteristic of what we call modern civilization. The reason is that the will power of the individual is the taproot of all his growth in character and efficiency.

Authority curbs the will power of the individual; liberty gives it play and exercises it. Therefore the training of the will to the wise use of liberty is the great means of developing individual strength of character and national greatness. The child or youth of weak will is the one that his teacher will find most difficult to train or to inspire.

The nation that is impulsive, flighty, fickle, and hysterical will go down before the steady, considerate, phlegmatic, and resolute nation. Whatever else a school or university may do for its pupils, if it does not implant the love of liberty and cultivate the lawful and productive use of liberty, that school or university will have failed to render its highest service to the youth under its charge.

The wise use of liberty, whether by an individual or a nation can be learned only by practice, and through the passing down from generation to generation of a gradually accumulated stock of public liberty.

THE LOVE OF TRUTH

The implanting of the love of truth as the opposite of error and of falsehood is surely one of the greatest contributions that education can make to individual efficiency; for the human powers, if they are to be efficiently used, must be exerted in accordance with the natural and the moral law, or, in other words, in accordance with the facts of the world.

If the primary school teacher longs to stir the sluggish mind of one of her scholars, she must first find out what the sluggishness is due to—to poor food, to bad air, to adenoid growths, to astigmatic or nearsighted eyes, to dull hearing, or to fear, or shyness, or a broken will. She must find out the facts in the case before she can deal with it. She must learn the truth about that child before she can set it free. In order to cultivate the love of truth, it is of the utmost consequence that children should study things as well as words, external nature as well as books, events which take place before their eyes as well as stories of long past events.

With the love of truth often goes the love of freedom; and these two loves together are capable of inspiring and directing the most efficient human lives. That is a wonderful prophecy that "ye shall know the truth and the truth shall make you free."

It follows from this doctrine that the most important quality in a teacher, whether for children or for adults, is genuine and transparent truthfulness. No other qualities, however brilliant, can compensate for the absence of this quality in a teacher. In the same way, and for the same reason, no quality is so valuable as truthfulness in the leaders of a free people, simply because truth telling and truth doing lie at the foundation of national efficiency. In the modern world a nation is effective in proportion to its truthfulness, or, in other words, in proportion as it keeps its thinking, speaking, and acting in accord with facts.

THE MOTIVE POWER OF ENTHUSIASM

Finally, education for efficiency should supply every pupil with the motive power of some enthusiasm or devotion. The real motive power in every human life, and in all national life, is sentiment; and the highest efficiency can not be produced in any human being unless his whole character and his whole activity be dominated by some sentiment or passion.

An evil passion may give great physical and intellectual powers a terrible efficiency. A good passion can make ordinary talents extraordinarily effective. A life without a prevailing enthusiasm is sure not to rise to its highest level.

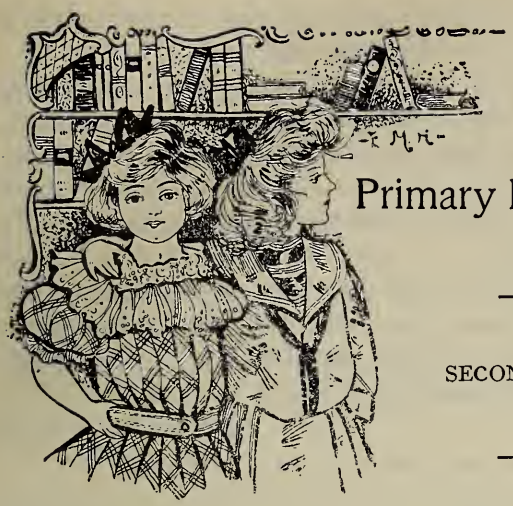
In almost all great men the leading idea of the life is caught early, or a principle or thesis comes to mind during youth which the entire adult life is too short to develop thoroughly.

Most great teachers have started with a theory, or a single idea or group of ideas, to the working out of which they have given their lives.

Among men of science the instances are innumerable in which a whole life has been devoted to the patient pursuit of a single vision seen in youth. For common men and women two or three of the common loves will suffice—the love of family and home, of school and church, of nature and books, of private and public liberty, of truth and justice.

For us teachers it is indeed an inspiring fact that effective and enduring enthusiasms spring up spontaneously, or may be implanted, in early life; for without them education can not procure the highest efficiency either during youth or for the after life. Education for efficiency must not be materialistic, prosaic, or utilitarian; it must be idealistic, humane, and passionate, or it will not win its goal.

Condensed from the *Brooklyn Daily Eagle*.



Primary Lessons

SECOND YEAR

THE BODY AS A WHOLE

THE Chinese have a proverb that "Patience and perseverance change mulberry leaves into satin."

Here is a miracle indeed, when the tender shoots of a plant are changed into the richest material for our clothing. But what shall be said of the greater miracle by which our bodies themselves are built up out of the food we eat, the water we drink, and the air we breathe? More wonderful still, each act of our lives contributes its part to the formation of character, thus determining what manner of men and women we shall become.

While these miracles work themselves, it is our part to provide good materials and proper conditions for growth, and in this work the child should have a share almost from the very beginning.

It is his body, and he must learn how to use it to the best advantage, how to take care of it, and how to keep it in good working condition.

Suppose he begins the second year of school knowing the names of the main parts of the body, head, neck, trunk, and limbs; why the body is made up of parts, instead of being in one piece; and some of the most obvious ways in which the body as a whole is to be cared for.

The first work of this year may then well be on

(1)

HOW THE BODY IS MADE UP

Call some little child to the front of the room, choosing one that has a fair, smooth skin.

What does Helen have on this morning, children? Why does she need a dress? What does she wear on her feet to keep them warm? What are these long curls good for, besides being pretty to look at?

THE COVERING OF THE BODY

But here are parts of the body that have no dress or shoes to keep them warm, and no curls to cover them up. What is this covering that protects Helen's face and hands?

Where else on our bodies do we find this soft smooth covering? What color is it? How does it look after you have been down to the seashore for the summer, or after you have played outdoors a good deal without your hats or gloves?

Now Helen may go back to her seat, and we will talk awhile about this covering of our bodies that we all have, and that we never take off.

Hold up your hands where I can see them. Does the skin covering fit tightly or loosely on them? Take hold of the skin on the back of your hands. See if you can lift it up, or move it at all.

Open and shut your hands. How does the skin look on your knuckles when you shut your hands? When you open them?

Bend your wrists; your elbows. How does the skin fit over these places? If the skin did not fit loosely over all the bends or joints in our bodies, we could not move these parts easily, and the skin might crack open when we tried to do so.

How many of you ever had a cut finger? How did it feel when the skin was broken? What does the skin do for our bodies when there are no cut or broken places in it?

THE FRAMEWORK OF OUR BODIES

The skin feels soft and smooth when we touch it. Who can find a part of the body underneath the skin that feels hard? What is the name of these hard parts of the body?

We can not see the bones in our bodies, because they are on the inside and well covered up. But we have all seen the bones of different animals, so we know how bones look.

What color was the bones you have seen? Our bones would look pinkish-white if we could see them.

Put your hands on your heads. What is the shape of the bones you can feel there?

Find another part of the body where there are round bones?

Feel of the bones in your upper arm. What is the shape of these bones? Find other long, round bones in the body that are shaped much like the arm bones.

If we had no bones, how would our bodies feel to the touch? Could we stand or run about as we do now? Why not? Tell one reason why we need so many bones.

What do we need besides paper or silk in or-

der to make a good kite? Name something else that needs a framework to hold it up.

THE FLESHY PARTS OF THE BODY

Find parts of your body that feel soft when you touch them. Who knows the name of these soft parts? Give the word flesh, or muscle, if no one in the class can do so.

How do you think the body would look if we had no muscles, and there was nothing but skin to cover our bones? What is one good reason, then, for having all this nice soft flesh on our bodies?

The muscles do something else for us besides making our bodies look better. They help every part to move. We could not raise our arms, if we had no muscles in them; or run or walk, if we had no muscles in our legs.

Find a muscle that you can see swell out when you move it, and grow larger than it was before. Every boy knows where the muscle in his upper arm is, and will be eager to show it.

Have all the children rise and feel this muscle in their own arms.

Let them clasp their hands about the fleshy parts of their legs, and feel these muscles move when they try to take a step.

Where are the muscles that move when we laugh? when we cry? when we scowl? We can be sure that there are muscles in every part of the body that can move, because it is the muscles that do all this work.

PARTS OF THE BODY THAT KEEP US ALIVE

Put your hands over your nose and shut your lips tightly together. In a moment you have to take them away again to breathe, whether you want to or not.

Watch while I take a long breath. What part of my body swells out and grows larger when I breathe in a good deal of air?

Put your hands on this part of your own bodies and take a long breath. Where does the air go that we take into our bodies every time we breathe?

Give the word, lungs, if no one in the class can do so. Tell where the lungs are, and let the children put their hands again on the chest which holds the lungs.

The lungs are one part of the body that keeps us alive. We could not breathe the pure air into our bodies without them.

Who knows the name of another part of the body that we need to keep us alive? It goes tick, tick, like a clock, all day and all night. Put your hand on your heart. On which side of your body is it?

The round bones of the head form a box that holds something else that we could not get along without even a single moment. What is it? Why do we need the brain?

If a man is unfortunate enough to lose a leg or an arm he may still get well and perhaps live a good many years. Perhaps he can have a wooden leg that will help him to walk pretty well, or a wooden arm that will help him to do many things.

But no one could live without his head or his trunk, because these hold the parts of his body with which he thinks, and which keep him alive. Nothing can take their place.

PARTS OF THE BODY THAT TELL US WHAT TO DO

Who tells you what to do when you are at home? When you are at school? Who tells you what to do when you are all by yourself?

What part of the body do we use when we think? Where is the brain? Can we see it? Why not?

Put your hands again on the strong box that protects the brain and keeps it from getting hurt. What is the name of this part of the body?

Look at the heads of all the boys and girls in the room, and tell what you think the shape of the head is. Draw a picture of the front of the head; the side; the back.

Every time you want to move your hand or your foot or any part of your body, you do not tell these parts to move or where they are to go, but a message does go to them to tell them this, and the brain is the main office from which messages start.

Perhaps you wonder how these messages get from the brain to the right parts of the body. There are little white cords inside the body that carry them, just as telegraph wires carry messages from one place to another outside the body.

These little body wires are our nerves. Can you see the nerves? Why do you think they are hidden away out of sight under the skin?

It takes a great many nerves to carry all the body messages, but there are enough for every part. See if you can touch any part of your body without feeling it. That shows that every little part has its nerves to tell the brain every thing that happens to it.

SOMETHING TO REMEMBER

Our bodies are made up of skin, bones, and flesh or muscle.

They contain our lungs, heart, brain and nerves.

Our bodies are covered with a smooth, soft skin.

The skin helps to keep the body warm, and protects it from harm.

The bones are the hard parts of our bodies.

We need bones to hold up our bodies and give them shape.

The muscles are soft parts of our bodies.

We need muscles to move the different parts of our bodies.

Parts of the body that keep us alive are the heart, the lungs, and the brain.

We breathe with our lungs.

We think with the brain.

The heart is the body pump.

The nerves carry messages from the brain to all parts of the body.

(2)

WHAT WE CAN DO WITH THE BODY

There are some things in our homes and in the schoolroom that are meant just to be looked at. Name one such thing.

Our bodies are made for a different purpose. They are made to be used in doing something in the world.

What has your body done for you today? What has it done to help somebody else? In what ways has it helped you to have a good time?

Robert may tell something he has done with his hands since he got up this morning.

Ask other children, in turn, to tell what they have done today with the help of their feet; their hands; their arms; their tongues; their eyes.

"In winter I get up at night
And dress by yellow candle-light.
In summer, quite the other way,
I have to go to bed by day."

Name something that grown people can do easily which would be too hard for children to do. What can you do that your baby brother or sister can not?

What can the horse do that no person could do? the squirrel? the bird? Name things we can do better than any bird or animal.

Why does the horse need a stronger body than we have? Why do we need a better brain than any horse?

(3)

CARE OF THE BODY

How many of you have a doll or some other plaything at home that is too nice to use every day, and that mother lets you play with only once in awhile?

The body is much choicer than any toy that was ever made; yet you always have it with you, in all your work and play. It is never too good to use, and it is much better to give it plenty to do than to use it only now and then.

Indeed, the more we use our bodies without hurting them, the larger and faster they grow, and the more we can do with them; but we must take good care of these bodies of ours, if we want them to last many years and be always strong and ready to work for us.

You do not like to see a doll that is soiled, and has perhaps lost a leg or an arm; or a toy express cart that has but one wheel. Neither does any one like to see the body look careless or neglected in any way.

Tell some of the ways in which we can keep it looking nice, as we all like to see it.

We can keep it clean and tidy,—clean hands and face every morning before breakfast and school, and every night before we go to bed; clean fingernails; clean teeth after each meal; and our hair nicely combed every day.

Show me your teeth now. How many of you brushed them this morning before coming to school? How many have a toothbrush all your own? Ask mother to buy one, and show you how to use it.

Hold up your hands. How many clean fingernails in the room? Show me again this afternoon, and let me see five on each hand.

There is something else we must do for our bodies besides keeping them clean. We want them to grow fast, and we can help them to do so. What do you do every day that helps to make you larger and taller?

Ask the children to tell what they had for breakfast before coming to school; what they had for dinner and supper yesterday.

Write on the board everything named by any child. Underscore with red chalk all foods in this list that are good for children.

If any unwholesome foods are mentioned, or

any substances that are not foods, tell the children why these are not good, and erase them from the board.

Do the same with drinks. How do we know that we need something to drink? What drink is best to quench our thirst?

Tell why milk, buttermilk, and lemonade are also good drinks. Beer and wine are not good drinks. They do not quench thirst. They do not help the body grow. They often make people like them so well that they can not let them alone.

Tea and coffee are not good drinks for children. Instead of helping them grow, they often keep them thin and make them nervous.

Sometimes boys think it will make them more like men if they learn to smoke. But cigarettes never yet helped a boy to grow. They are much more likely to make him a small, thin man, if he lives to be a man at all.

Boys who want to be fine, strong men, never begin to smoke. They eat good food, and drink water, and let cigarettes alone.

Our bodies need exercise too, to make them grow. They are telling us this every time we want to run and play. When we feel tired, they are telling us that they need rest and sleep.

What games have you played today that will help to make your bodies grow? What errands have you run to help mother or somebody else? In what other ways have you given your bodies the exercise they need?

What time did you get up this morning? How many hours did you sleep last night? Who went to bed first? The first part of the night is the best time to sleep, and that is the time when our bodies should get the most rest.

SOMETHING TO REMEMBER

Our bodies are given us to use for ourselves and to help other people.

We can do only a few things at first, but we can learn to do many things.

Every part of the body should be kept clean, especially the hands, face, teeth and fingernails.

Good food and pure water help to make the body grow. Poor food, and drinks with alcohol in them hurt the body and hinder its growth.

The boy who wants to make a fine strong man will let cigarettes and every form of tobacco alone.

Every part of the body needs exercise to make it grow.

Besides exercise, we need sleep.

Early to bed and early to rise is a good rule for everybody.

AUTHORITATIVE QUOTATIONS

ALL KINDS OF ALCOHOL A POISON

The idea of the toxicity of the different alcohols, comprising even the alcohol of the most pure wine, is an idea admitted absolutely by all physicians.—A. Joffroy, Professor of Mental Diseases, St. Anne Asylum, Paris.

Alcohol is a poison to body and soul, it deprives the workman of his skill and working ability, it diminishes his strength, it makes him susceptible to all diseases, it weakens the race. —H. Barella, M. D., Royal Medical Academy of Belgium.

ALCOHOL IN BEER AND WINE INJURES DEVELOPMENT

It is inexcusable to give beer or wine to healthy children; the use of alcoholic drinks exerts an injurious influence upon the mental and physical development of children, and leads to the formation of bad habits.—Dr. Fielder, Med. Counsellor and Supt. Dresden City Hospital.

ALCOHOL PREDISPOSES TO DISEASE

Drinking children fall ill much more readily than those who do not drink, and their illnesses are apt to be more severe and more often fatal. This was very evident in the childrens' hospital in Berne during an epidemic of diphtheria.—Adolf Frick, M. D., University of Zurich.

MY BODY

All this is my body from my head to my toes,
Made of bone, skin, and muscle, as every one knows.

At the top is my head with its covering of hair,
Which we all should remember to brush with great care.

Here in front is my face which should always look bright,
For a frown or a pout would disfigure it quite.

It has forehead, temples, two bright eyes, and a nose,
Brows, ears, and lashes, we must not forget those.

My nose has a bridge, and two nostrils besides,
And here are my cheeks which are placed at the sides.

My mouth has two lips, as you very well know,
A little pink tongue, pearly teeth in a row.

All I hear and see with my ears and my eyes
Will help me each day to grow learned and wise.

My mouth and my nose must do their part well,
For how, without these, could I eat, talk, or smell?

To the right, to the left, now up, and now down,
My neck moves my head, and lets it turn round.

The largest part here is the trunk part you see.
It always reminds me I am built like a tree.

For here are my limbs, both upper and lower,
Right, left, two of a kind, I do not need more.

Then the fingers and toes spreading out like a twig;
There are ten of each kind, though they're not very big.

Back to back, palm to palm, my hands I can lay.
They are useful to me in my work and my play.

Three parts has each limb: arm, forearm and hand;
Also thigh, leg, and foot; on the last one I stand.

The elbow unites arm and forearm, you see,
While the thigh and the leg are joined at the knee.

Just between foot and kuee the ankle is found.
Both this and the wrist are slender and round.

"A wistful charm in the tender sky, and a dreamy unreality!
Floating airy, fairy things, soaring high on gauzy wings
These, the spirits of the flowers, that once clothed the summer bowers!"*

In the trunk, at the left, hear the heart "pit, pit, pat."
By day and by night it is sure to do that.

Watch my lungs, how they swell when I breathe long and deep!
My chest rises and falls even when I'm asleep.

Of this wonderful body there is much I could tell.
My shoulder, my elbow, my wrist joints as well,

They help me to move and bend as I please.
Whenever I wish, I can do so with ease.

Just look at my fingers! I can move one or all.
How bad it would be, were I stiff like a doll!

I must not forget one more fact to tell:
Besides ankle and foot I have hip joints as well.

My foot has an instep with broad spreading sole.
With five toes and a heel, this makes up the whole.

For standing, for walking, for running with speed,
My feet do my bidding and go where I need.

Much more might I tell of this body of mine,
If I only might take a little more time.

But let me remember that God meant me to make
A strong man or woman, so I must care take.

Selected.

*Courtesy Boston & Maine Railroad

Grammar Lessons

FIFTH OR SIXTH YEAR

ALCOHOLIC DRINKS

PRESIDENT Hadley, of Yale University, recently said: "When the common people get possession of all the facts touching the nature of alcohol, they will drive every saloon out of the country."

One of the objects of the public school study of temperance physiology is to put the common people in possession of these facts, and, furthermore, to acquaint them with the effects of the beverage use of alcohol on the human body, and the relation of moderate drinking to drunkenness.

All these facts are known, and all have been put into popular language, graded to the understanding of all classes of pupils. The way is thus open for almost universal education in this matter which touches so closely the health, the intelligence, and the morals of every community.

Two things must constantly be kept in mind as these topics are taken up:

In the first place, the teacher must guard against any monotony in the classroom. While theories change from time to time, and additional facts repeatedly come to light as a result of improved methods of study and wider experimentation, the properties of alcohol remain the same, and also its effects on the body. Hence, in the main, the same body of truths must be taught year after year in this study, just as is the case in arithmetic.

But while the subject matter varies little, each year brings a new set of pupils as much in need of this instruction as any in the past. This in itself should be enough to rouse enthusiasm and keep our teaching out of the ruts.

The other factor which must not be neglected is the special fallacies which need correcting in every community. Sometimes the impression prevails that home-made beer and wine do not contain alcohol unless this has been added in the making. Again, it may be thought that there is no harm in moderate drinking, but only in the abuse of liquor. In other cases, the notion must be combated that all drinks made from good fruits and grains are equally harmless and wholesome.

One or more of these mistaken ideas is almost sure to have found footing in every part of the country. Only as such fallacies are watched for and dispelled by knowledge of the facts will a firm foundation be laid for the principles of true temperance.

In his study of food and drink, the pupil learns that both are needed to keep people alive and make them grow. He learns that fruits and grains are valuable food stuffs, and that wine, beer, cider and other fermented liquids made directly from these foods are not only useless as such, but actually harmful.

If he thinks about the matter at all, he wants a reason for such a contradiction of terms; if he neither thinks nor cares, now is the time to waken his interest and give him right notions.

A good way to introduce the subject is to take up first some of the common ways in which food spoils if left to itself. and find out the

CAUSES OF DECAY

Bring into class an apple and a piece of rock about the same size. Pass both around for the pupils to examine.

As we feel of them now, both are firm and hard. But suppose we put them away on a shelf for six months or more. Will they remain as they are today? What change will take place?

Let the class name or write a list of familiar substances, like the apple, that decay or go to pieces in time, and another list of substances, like the rock, that do not change.

Give the name, organic substances, meaning those made up of different parts or organs, to the first class, and inorganic substances, meaning those which are not thus made up of different parts or organs, to the second class.

Call for ways in which organic substances differ from inorganic. Let the class first tell all they can from observation, then send them to dictionaries, their physiologies, and such other suitable reference books as may be had.

See that all understand that the essential difference lies in the fact that organic substances whether animal or vegetable are, or have been, alive, and that after life ceases they begin to decay; while all inorganic or mineral substances have never been alive, and hence do not die or decay.

At this point some one is likely to ask why it is that living things do decay. If not, suggest this question and help the class to answer it.

Why does not the apple keep its size and shape as long as the rock? Why do vegetables

decay, and meats spoil, and bread and cake mold, and milk sour?

The microscope has helped us to answer these questions. If one can be borrowed, let the class look through it at a piece of moldy bread or cheese. If not, tell them that these soft fluffy masses are a kind of plant that is alive and grows. We can see it grow from day to day, until it entirely covers the bread or whatever it has fastened itself upon.

It must eat in order to grow, and it gets its nourishment from this bread, just as we do when we eat bread or other food. If we leave the bread undisturbed long enough, the mold will eat it all up.

Everything that decays does so because it is fed upon and taken to pieces by some lower form of life, either plant or animal. These tiny organisms have different names, molds, fungi, yeasts, ferments, bacteria.

Have the class look up the meaning of each of these words, and find in what ways these microbes, or tiny living things, are alike, how they differ, and the kinds of food that each lives upon.

Talk first about their good uses. Certain kinds of bacteria give butter and cheese their delicious flavors; others make vinegar. Yeast makes bread light. Some of the higher fungi like mushrooms are good foods in themselves.

Molds and bacteria are useful in ridding the world of dead matter. When the leaves fall in the autumn they are soon taken to pieces by these tiny organisms and made over into rich fertile soil in which new plants can grow. If an animal dies, we know that it decays and disappears. That too is the work of bacteria.

But in other ways these microbes are a great trouble, because they eat up the food that we want for ourselves. For this reason we must know how to get rid of them. We know that food will keep longer in a very cold place than where it is warm. This is not because bacteria are killed by ordinary cold, but because they do not eat or grow unless it is warm.

Help the pupils to think why fruit and vegetables will keep sweet if they are sealed up tightly in a can. Why is it important to see that all fruit jars are perfectly clean before using, and that they too are heated before the hot fruit is put into them!

Ask the class to find out at home how different kinds of food may be kept from spoiling. One pupil may learn in this way how and where bread will keep longest without molding; a second may find the best ways of keeping milk sweet, and others may come prepared to tell how fruit, vegetables, meat, etc., may be preserved as long as possible.

After such preparatory study of the changes caused in foods in general by bacteria and other microbes, the class will be ready to study the special ways in which fruits and grains are changed when made into alcoholic drinks.

ORIGIN OF ALCOHOLIC DRINKS

Every one knows that cider and wine are very different substances from pure apple and grape juice, but nobody knew just what made this difference until the microscope showed that it was caused by the same tiny yeast plants which we have found are one kind of microbes.

You know how yeast looks when great numbers of these plants are dried and pressed together into a cake, such as is used in making bread, but each plant by itself is too small to be seen without a microscope.

Have ready a yeast cake to show at this point in the lesson. Pass it around for all in the class to look at and examine.

Ask the pupils to find from their books and by inquiring at home, how yeast is used in making bread. Will the sponge rise if kept in a cold place? Why not? What are the conditions necessary to get light, sweet bread dough?

Tell the class about the food on which the yeast plants live. They must have sugar in some form, and moisture, in order to grow rapidly, and they must be kept in a warm place. There is a little sugar in the bread dough and more is formed from the starch in the flour. The yeast plants take this sugar to pieces, use a part of it for their own food, and break the rest up into two new and very different substances, alcohol and carbonic acid gas, neither of which is at all like the sugar it is made from.

Refer the class to their books to find a description of both these substances, and also what becomes of each in the bread.

In the same way, guide their study of the use of yeast in beer-making, asking the pupils to find how the grain is prepared, where the sugar comes from that serves as food for the yeast, and what becomes of the alcohol and carbonic acid gas in this instance.

Make sure that every one clearly understands the important difference between bread-making and beer-making. In the first, it is the carbonic acid that is wanted. This puffs up the bread dough and makes it light. Then the dough is put at once into the oven and baked, in order that the heat of the oven may cook the dough and drive off all the alcohol into the air. When the bread is thoroughly baked there is no alcohol left in it.

In beer-making, it is the alcohol that is wanted. The carbonic acid gas bubbles up to the top of the liquid and disappears into the air. The alcohol stays behind in the beer, and is bottled and sold with it.

When this distinction between bread-making and beer-making is well understood, have the class find from their books how wine and cider and other alcoholic drinks made from fruits are prepared.

No yeast is added in these cases, but yeast is necessary to ferment the sugar in these juices and change it into alcohol. Where does this yeast come from? If we set a dish of fruit juice almost anywhere, it will soon ferment and alcohol will be formed in it. This shows that there must be ferments, or wild yeasts as they are sometimes called, always floating in the air, ready to grow and multiply as soon as they get into any sweet liquid like fruit juice.

This is the reason why nobody has to put yeast into these juices to make cider or wine. There are always enough floating about in the air to ferment them and form alcohol.

REASONS FOR TOTAL ABSTINENCE

If every point in the preceding lessons has been thoroughly explained and talked over in class, it will now be plain to all that wine, beer, cider, and other fermented drinks contain a new substance, alcohol, that was not found in the fruits and grains, and is not found in bread.

The next step is to learn the nature of this alcohol, and thus find whether the beverage use of drinks in which it is found is safe or dangerous.

Send the pupils to their physiologies to find what these say about alcohol. Let them consult also in class medical dictionaries and other reference books that may be accessible, and have the authoritative quotations which accompany this lesson read aloud and explained.

They will find that all tell the same story,—that alcohol is always a poison. Since this is the case, no one can drink even one glass of beer, or wine, or cider, or any alcoholic drink without taking some of this poison into his system.

Make it plain to all that it is possible to take a little of almost any kind of poison without feeling any ill effects, and there is so little alcohol in one or two glasses of any of the lighter alcoholic drinks that the drinker may not feel any worse after drinking this amount than he did before. He may even think he feels better.

The trouble is that very few people stop with one or two glasses. They want just as much tomorrow and the next day, and before they know it there comes a time when they must have three or four glasses, and by and by that will not be enough, because alcohol is a kind of poison that has the power to create a craving for itself that is never satisfied.

Emphasize this point by reading aloud the old story of Gulliver's experience with the pigmies. When they began to bind his arms and legs with their tiny cords, he laughed and made no attempt to free himself. But they added strand after strand until he found, to his horror, that he could not rise or break his bonds.

How is this like the fate of the man who begins to drink and keeps it up day after day? What kind of appetites should we form? What kinds should we keep free from?

A clever Frenchman once said, "Most people use their first years to make their last miserable." We shall be equally foolish if we form the habit of wine-drinking or beer-drinking while we are young. Instead, let us now form the habit of total abstinence from every drink that has even a little alcohol in it. If we do this, we shall be using our first years to make our last happy.

AUTHORITATIVE QUOTATIONS

ALCOHOL USELESS AND DANGEROUS

It is said that alcohol is a tonic, a stimulant, a comforter, that it is suited to all ages and climates, to man in health and sickness. Today science has demonstrated that alcohol does not possess any of the beneficial properties that have been falsely attributed to it, that it is useless and dangerous.—Dr. deVaucleroy, Professor of Hygiene in the Military School of Belgium.

NO AMOUNT OF ALCOHOL SAFE AS A BEVERAGE

To state that alcohol in any quantity is safe is a woeful misinterpretation. No one can yet state at what point the secondary injurious effects begin, and no one can state what is a small and what is a large dose.—H. W. Conn, M. D., Wesleyan University.

USE OF WINE LEADS TO ITS ABUSE

Wine, like the other alcoholic beverages, leads to the abuse of itself, and tends to place a man in a state of irresponsibility. There were drunkards in all countries of vineyards long before any one drank beer and brandy.—Gustav von Bunge, Professor of Physiological Chemistry, University of Basel.

Naturally the lighter alcoholic drinks cultivate a taste for the stronger liquors. Those who make statements in conflict with the indubitable facts of statistics must either be ignorant of these facts or else attempt to pervert them in order to apologize for their own drinking habits.—L. Meyer, M. D., University of Gottenburg.

MODERATE DRINKING LEADS TO DRUNKENNESS

The risk run by any one who begins as a moderate drinker of ending as a drunkard is a very real one, is increasing year by year, and is increasing in a form that is most dangerous to the national health and happiness.—William Carter, M. D., LL. B.

The moderate drinker injures his tissues by degrees. He may appear unharmed; he fancies he is, and scouts the idea that his drink is injuring him in the slightest. But sooner or later illness comes on, and the organs which have been slowly weakened are unable to assist one another to throw off the disease, and so he succumbs, when as an abstainer he could have pulled through. Some will die young, but a thousand teetotalers will have more years of life to share between them than a thousand drinkers.—*The Medical Pioneer.*

It is not the man who occasionally becomes intoxicated who gets into trouble, but the man who drinks much and never gets drunk that becomes a candidate for disease. His are the bloodvessels that early grow less elastic and more brittle, his are the chances for apoplexy, and consequent infirmity, his are the weakened will power and moral force, his are the nerve tissues that show slight vitality.—ALBERT E. STERNE, A. M., M. D., Professor of Nervous and Mental Diseases, College of Physicians and Surgeons, Indianapolis.

That alcohol misused in an immoderate quantity causes many deaths has no doubt been noticed at last. But even moderately used it shortens life.—A. FOREL, M. D., Professor of Psychiatry at University of Zurich.

"Gipsy Autumn, in beauty glowing,
Is treading the courts of the royal year."

OBJECTIONS TO A TWO-BOOK SERIES

WE regret to learn that the Text-Book Commission of Tennessee, in spite of the wise and persistent efforts to the contrary of Mrs. Holman, President of the state Woman's Christian Temperance Union, aided by the teachers of the state, has recently adopted the Krohn Physiologies, a two-book series.

In order that the future men and women of Tennessee should know why they should obey the laws of health, including those that teach abstinence from alcoholic drinks and other narcotics, the law of the state requires "all pupils in all schools" to be taught this branch, that is, the physiological reasons for obeying the laws of health.

In the public schools of Tennessee, as in other states, there are usually from seven to eight different classes or grades of advancement to which this instruction should be adapted. Such adaptation is impossible with a two-book series. Children of the fourth school year can not understand matter that is adapted to children of the sixth year, and sixth grade children resent being given matter that is suitable only for those two or three grades below them.

With a two-book series, either the same matter must be presented over and over in different grades, thus producing weariness and disgust in the mind of the pupil, or it must be omitted in some grades, thus depriving such pupils of needed instruction. Such a course is an evasion of the spirit of the law, and a distinct loss to the children and the state soon to be governed by them.

These objections to a two-book series are greatly intensified in the case of the Krohn physiologies, because each book is largely a duplicate of the other. More than two-thirds of the smaller book consists of sentences and paragraphs taken from the larger one without change in wording. A pupil who had studied the first book of the Krohn physiologies, when given the second book indignantly exclaimed, "I had all that when I was down in the lower grades." Such tiresome repetition, in place of new and interesting matter adapted to grade, will greatly weaken the effectiveness of the teaching.

Happily, the law of Tennessee allows the use of supplementary books that may not have been recommended by the state Text-Book Commission. Hence, the friends of temperance in that state should make every effort to get the Oral Lesson Book into the hands of primary teachers, and some good fourth year primer into the hands of pupils in the fourth school year.

Continued on third page of cover.

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AUTUMN GLOW

If this the preface be of death,
In crimson, green and gold,
What wondrous art illumineth
The story still untold.

JOHN B. TABB.

TOTAL ABSTINENCE THE LOGICAL RESULT

THE story of science concerning the use of alcoholic drinks and other narcotics is only one feature of the large subject of physiology and hygiene which is a compulsory study in the public schools of this country.

President Eliot's article, quoted in part in this JOURNAL, ably sets forth the importance of the education of the senses and the relation of such education to individual and national efficiency. For more than a dozen years systematic instruction in the physiological reasons for the right care and development of the senses, brain, and other organs of the body has been a legally required part of the public school education of the children of this nation.

So effectively has the fact been instilled into the intelligence of these children that alcoholic drinks, even in what are called moderate amounts, injure sense perception and accuracy, that prohibition of the use of such drinks for employes is today a marked feature in American industries. Consequent widespread elimination of the impairment by alcohol of the working ability of the American workman, as a result of this anti-alcohol education in our public schools, is recognized by the nations of the world as one reason for our commercial success.

Not every one may yet believe in total abstinence, but it is hard to see how those who advocate training for the highest efficiency of the senses can long fail to do so when scientific authorities so largely agree with Professor Abel of Johns Hopkins University, one of the Committee of Fifty's own experimenters, who says, concerning taking alcohol during the performance of the duty at hand:

"In all those vocations of life where keen senses, sharp attention, the ready and immediate action of clear judgment, or great concentration of the mind are called for, alcohol in any form or amount is injurious."

KNOWLEDGE THE FIRST STEP

A MEMBER of the Mosely Educational Commission, after visiting the public schools of this country, is quoted as saying: "The Americans seem to have four R's in their public school course, while we in England have but three. Their fourth R is the Reason for things."

This was a high compliment to our public school education and to our teachers. The mission of education is the impartation of knowledge and the development of the reasoning faculties for the application of knowledge to the problems of life. Thus knowledge becomes power. But knowledge is the first step. The engineer must know the laws that govern the structure and functions of his engine, and what will help or hurt its work in order to understand how to secure its highest efficiency.

The nation that would have a strong, efficient people must teach its children, through the schools, the physiological reasons for obeying the laws of health, laws that inhere in their being and that must be obeyed to secure strength and efficiency. It must teach also what will help or hurt that efficiency. Such instruction must shape the physical habits of the people. To do this, it must begin in the plastic period of childhood, in the earliest years when the schools can reach the children, and must continue as a progressive study through the habit-forming portion of school life, until as much of the subject is covered as is adapted to public school instruction.

Such study of the physiological reasons for obeying the laws of health, including those that teach abstinence from alcoholic drinks and other narcotics, is sure to be effective, for it appeals not only to the reason of the child but also to the strongest human instinct, self-preservation.

NECESSITY FOR BOOKS IN TEMPERANCE PHYSIOLOGY

The truths on this subject are scattered through a widely diversified literature. They must be gleaned from anatomy, physiology, chemistry, biology, toxicology, pathology, and hygiene. To expect each teacher to gather the facts from all these sources as he goes along with his school work and put them into effective lessons for the classroom is to expect the im-

possible. As well ask the teacher of history to gather from the archives of all nations the story for each lesson in history, as to expect the teacher of temperance physiology to attempt a similiar task. Such work must be done for pupils and teachers in this study just as it is in history, geography, and arithmetic.

Well graded series of school text-books in physiology and hygiene, including the nature and effects of alcoholic drinks and other narcotics, for teachers' use and for the use of pupils who now use books in other subjects, are tools as necessary in the right education of the people as are the saw, plane, and hammer in the building of houses which are to be the homes of the people.

IMPORTANCE OF A GOOD COURSE OF STUDY

The *Congregationalist*, a religious paper published in Boston, says:

"A Commission appointed by Kaiser William to investigate the drinking habits in Germany has reported that the increase in the consumption of alcoholic liquors in the empire has amounted to $125,000,000 a year. The Kaiser is reported as saying, 'This tremendous guzzling must be stopped somehow!' "

These little children from over the sea
Are as eager to learn as you can be.

The root of the trouble lies in the fact that the people of Germany believe that the moderate use of alcoholic drinks is, at least, harmless. They like such drinks and use them. Moderate use leads to immoderate use and consequent demoralization, because alcohol, even in the small amounts found in German beer, has the power to create a craving for more that becomes uncontrollable.

Every moderate drinker does not succumb with equal rapidity to this power, but whether or not one is susceptible to the cumulative attraction of alcohol for itself can not be foretold. "He finds out only by playing a game of chance with his own life, which is a dangerous experiment," says Professor Gruber, of Munich. Hence the belief of the German people in the moderate use of alcohol inevitably results in the guzzling which the Kaiser says "must be stopped."

How can this be done? The education of the whole people, through the schools, in the physiological reasons for obeying the laws of health including those that relate to the dangerous character and evil effects of alcohol, even in small amounts as found in beer, wine and cider, will stop it.

Such education places the prohibition in the intelligent choice of the people where it is most effective.

The president of the German Women's Total Abstinence Society, Frl. Ottilie Hoffmann, writes that Dr. Studt, Prussian Minister of Education, has published in the September-October issue of the *Zentralblattes fur die gesamte Unterrichts-Verwaltung*, the official monthly instruction sheet for teachers, an abstract of our American course of study covering the topics relating to the dangers in the use of alcoholic drinks. The December number of the same paper contained a translation of our course of study entire, "for the purpose of showing the contents, scope, and methods of this instruction in the American schools."

This course of study only names the topics that should be taught in the different grades. If there are furnished to pupils and teachers no books telling what is to be taught about these topics, the German teachers will be bewildered by the task proposed. They will be able to do effective work in this study only when good books adapted to grade have been furnished, showing the truths that should be taught on these important topics.

Such books in the hands of every child in the schools of Germany able to read, with instruction according to the best modern methods, will revolutionize the drinking habits of the Fatherland in a way to surprise and gladden the heart of the Kaiser and that of his most gracious and charming wife, Kaiserin Augusta Victoria.

A GOOD LAW USELESS FOR LACK OF BOOKS

In 1892, the Superintendent of the International Department of Scientific Temperance Instruction sent to the governments of the world copies of our American temperance physiology laws, our courses of study, and text-books on this subject. On recommendation of King Oscar, the Parliament of Sweden then in session enacted a statute requiring this study, not unlike the temperance education law passed by the United States Congress applying to all schools under federal control.

Mr. Mats Dalborg, a public school instructor of Stockholm, sent by the Board of Education of that city to study the practical teaching of this subject in American schools, says:

"Sweden has had a temperance education law for twelve years, but it has been only on paper. We have done nothing about enforcing it in the schools. This is not the fault of the teachers. They did not know what to teach. They have had nothing to do with; no text-books. No one in Sweden has gathered up and put into books the truths the pupils in each grade ought to learn, as you have done for the American children."

As there are now a number of Swedish teachers in our country studying our temperance education system, there is hope that this lack will be widely realized and met.

EXCELLENT TEXT-BOOKS ADOPTED IN EDINBURGH

Nearly 15,000 registered physicians, "practically the entire medical profession of Great Britain", have within the last few months signed a petition for the study of the laws of health, including the nature and effects of alcoholic drinks and other narcotics, by all pupils in all the public schools of England, Scotland, Ireland, and Wales. In response to this petition, the city of Edinburgh, Scotland, has adopted our latest and best graded books, the entire New Century Series, for the schools of that city. This is a start, but all Scotland will yet have her own books that will teach both Highlander and Lowlander that pure water is a safer drink than Scotch whiskey.

ANTI-ALCOHOL INSTRUCTION PROPOSED IN ITALY

At an Anti-Alcohol Congress just held in wine drinking Italy, Professor P. Pasquali, Director of the schools of Brescia, in a moving speech proposed that the government introduce anti-alcohol instruction in the schools. This proposition was unanimously approved.

Thus one by one the countries of Europe are coming into line to secure this instruction for their schools, while upon us in America rests the responsibility of educating the representatives of all lands who have come to us in the reasons for total abstinence from alcohol and other narcotics. In such education rests the best hopes for freedom from the worst tyranny that ever enslaved human beings.

MARY H. HUNT.

THE SLEEPYTIME LAND

BY EUGENIA O. EMERSON

Oh, how do you think the Babies go
To the ports of Sleepytime Land?
  Oh, it's not by rail—
  They must lightly sail
To that most delectable strand!

Their little boat is a poppy dew;
They glide on the oceans of musk
  (The breeze's perfume);
  And they breast the gloom
At exactly quarter-past dusk.

They use for a sail a gossamer,
Their oars are just stamens of gold,
  And they dip their spars
  In ripples of stars—
A load of dreams in the hold.

A cargo, too, of some poppy-dew;
For ballast, the Sandman's sand—
  With a winking eye
  And a murmured "Bye"
They start for this Sleeptime Land.

If it be worth while to teach a given subject at all, there is probably some ascertainable number of week-hours which may best be devoted to it through some ascertainable number of years.—President Charles W. Eliot, in "Undesirable and Desirable Uniformity in Schools." "*Addresses and Proceedings of the National Educational Association, 1892.*"

PHYSIOLOGY TOPICS FOR OCTOBER

PRIMARY—Internal Needs of the Body: Pure Air, Food, Drink. Danger in Wine, Beer, and Cider. Body as a whole. How the Body is Moved: Uses and Care of Muscles.

INTERMEDIATE—Exercise and Rest. Foods, and Substances that are not Foods. Fermentation. Effects of Alcoholic Drinks.

ADVANCED—Tobacco and other Narcotics. General Processes of the Body.

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Continued from page 29.

If the Krohn physiologies must be used, the "First Book in Hygiene" should be put into the fifth and sixth grades and "Graded Lessons in Hygiene" into the seventh and eighth grades, with an indorsed high school book for pupils in the first year of the high school.

We recommend the same procedure to the friends of temperance in Virginia, where, unfortunately, the Krohn books have also been adopted.

The people of Kentucky are to be congratulated that their State Commission, although adopting only two books, selected these from the New Century Series. Each book of that series presents new matter adapted to the grade for which it is written, and no one of the books is in any way a repetition of any of the others. The use of these adopted books in the grades for which they are designed, with a supplementary use of the other books of the series for the remaining grades of the schools of that state during the next five years, will give to Kentucky a generation of sober, strong and efficient young people to bless the statesmanship of the men who made such a wise selection of books for their use.

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The School Physiology Journal

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BOSTON, MASS.
MARY H. HUNT, EDITOR

VOL. XIV. NO. 3
NOVEMBER, 1904

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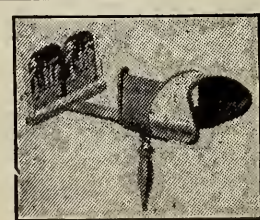

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School Physiology Journal

Vol. XIV *BOSTON, NOVEMBER, 1904* *No. 3*

NOVEMBER

BY LUCY LARCOM

WHO said November's face was grim?
Who said her voice was harsh and sad?
I heard her sing in wood-paths dim.
I met her on the shores so glad,
So smiling I could kiss her feet,
There never was a month so sweet.

Where short-lived wild flowers bloomed and died,
The slanting sunbeams fall across.
Vine 'broideries woven from side to side,
Above mosaics of tinted moss.
So does the Eternal Artist's skill
Hide beauty under beauty still.

And if, out of some inner heaven
With soft relenting, comes a day
Whereto the heart of June is given,
All subtle scents and spicery
Through forest crypts and arches steal
With power unnumbered hurts to heal.

THE SOCIAL ROLE OF ALCOHOL

BY AUGUST FOREL, M. D.

ETHYL-ALCOHOL is obtained by the action of micro-organisms upon sweet liquids, that is to say, by fermentation.

Found to some extent everywhere, the ferments have ready access to sweet liquids. Multiplying within these, they break up the sugar found therein into alcohol and carbonic acid gas. Modern chemical processes have made it possible to obtain alcohol very cheaply by distillation from all sorts of gross substances, particularly from such substances as potatoes, beetroot, etc. Nothing is simpler than to counterfeit wine, the product of fermentation of the juice of grapes, with the aid of distilled alcohol mixed with water, essences, and coloring matter.

Alcohol is used in industry as a solvent, a preservative of dead bodies, and is a source of light and heat, a useful role to which no one objects. It is not of this role of alcohol that we wish to speak, but only of it as a fermented or distilled drink.

ALCOHOL THE TYPE OF NARCOTIC POISONS

Alcohol is the type of narcotic poisons, Claude Bernard, the celebrated physiologist, has said.

But unfortunately, alcohol forms a part of the regimen of the majority of men. It is thus a social narcotic poison. For a time, confusion was caused by accusing as harmful the toxic substances mixed in small amounts with alcoholic drinks. The experiments of Strassmann, of Joffroy, and especially those of inebriate asylums have disposed of that fable, supported at best by those interested in the business of fermented drinks, who try to make the public believe that their alcohol is different from that of distilled liquors. If the drinkers of spirits are, in general, the most degraded, it is because the poor drunkard, having reached the last stage, no longer has money for anything except spirits. But how often it is the use of fermented drinks that begins to drag him to his ruin!

In order to understand thoroughly the social question of alcohol, it is necessary to examine its different aspects.

CIVILIZATION DEPENDS UPON BRAIN WORK

It is certain that the human brain is the transmitter of civilization, since it is the organ of intellect, feeling, and will, in a word the soul. Civilization, then, depends upon the brain work of past and present generations, and consequently upon the hereditary and acquired qualities of our brains. Civilization itself, in turn, rests upon the latter, and at the same time contains elements of progress and of future higher development, along with elements of retrogression and degeneracy. These facts being once recognized, it is the duty of those who govern the people to develop and strengthen with all their might the first named elements, while combating with the utmost hostility the latter.

Like all higher living beings, the human individual is the result of the fusion or conjoining of two microscopic nuclei, that of the male germinal cell and that of the female germinal cell. All the energies of the individual called hereditary, those which determine all the main lines of his form and life, are contained in the two conjoined nuclei. Indeed, while the microscopic male nucleus is no larger than the female and is deprived of all connection with the paternal body, being subject up to the time of birth solely to maternal influences and entirely nourished by the mother, it yet imprints upon the individual, on an average, as much of the character of the paternal as of the maternal ancestry.

According to the influence to which the organs of the individual are subjected, and according to the character of their activity, they develop or atrophy, or become modified, strengthened or impaired. Life and its organs are

strengthened by activity and enfeebled by inactivity; that is a general law.

ALCOHOLIC HEREDITY

An insidious poison like alcohol—having the power of insensibly causing degeneration of living tissues, deluding the brain while paralyzing its innervations, especially of blunting the sensations, a process which is almost always accompanied by an agreeable feeling of narcosis, is especially adapted to cause the gradual deterioration of the hereditary energies of the germ of the animal species which makes a general use of it, a deterioration rendered progressive by the increasing ease with which it can be procured.

A germinal nucleus impregnated with this poison introduces elements of feebleness in proportion as it is degenerated. Even if it unites with a healthy nucleus, the latter can hardly correct the half of the evil.

It is not a case, one perceives, of the simple transmission to descendants of ancestral characteristics, nor of the new combination of the latter. No! It is an instance of a destructive agent coming from without to deteriorate a germ which in itself was good.

But this element once a part of the hereditary mechanism, does not soon leave it. It perpetuates the defects which it engenders, according to circumstances, in several generations. These defects may be—the facts prove it—of a widely different nature, and affect the most diverse organs. Such defects are: general feebleness, dwarfed stature, rachitis, epilepsy, idiocy, weak-mindedness, nervousness, monstrosities.

This is what constitutes alcoholic heredity, so imperfectly understood and so incorrectly interpreted in general.

But, it is said, we eat and drink many other things and not a few poisons without degeneration because of it.

Let us state the matter precisely:

Poisons may be, and very often are, eliminated from the organism without serious consequences, provided that the dose be small or not repeated. But the majority of them create no craving whatever. Man fears and avoids them; their odor, their taste causes a loathing for them. Then too, their harmful effects are very rare and quite accidental.

Even useful and normal foods, including water, cloy when taken in too large a quantity. There is in this fact a regulator adapted to the needs of the organism; a regulator which, in the main, operates in this way for the development of life. Without doubt, idleness, luxury, and lack of struggle for existence lead to sad abuses of diet, but the evil here is very limited.

CHARACTERISTICS OF NARCOTIC POISONS

Quite different is the action of narcotic poisons which delude the brain in all respects, provoke agreeable and deceptive sensations, give the feeling of strength while weakening us, of warmth while carrying off heat, of intelligence while dulling the mind, of the beautiful and the good while causing within us the decay of the aesthetic and the ethical, of will and ability while stealing away the power to act and to resist our baser appetites, of health while making us sick. And further, every narcotic demands more, if not at first, at least when its use has become habitual. It becomes an artificial need, a parasitic friend of which we can not longer rid ourselves, which consumes us by inches while pampering our weakness and lulling us into a sense of security by the illusions which it provokes.

The action of the different narcotics upon the tissues of the body is variable, but the foregoing characteristics are common to them and make of them *social poisons* which brutalize the race and cause it to run down. The habitual use of any narcotic is thus in itself a grave abuse. And the general use leads to accustoming one's self to it so that slight effects are no longer observed, either in one's self or in others. But the facts remain none the less.

Of all these poisons alcohol is the worst, because it not only narcotizes and deceives man, but more than others it makes him brutal, aggressive, criminal, and causes degeneration of his tissues and reproductive organs to a frightful degree. Moreover, the way in which at the beginning it "loosens the tongue and excites it to action" makes of it an artificial means of sociability for those who have nothing to do or nothing to say, and makes them mutually believe that they are witty. It also flatters the palate of its habitués. Finally, sufficiently diluted, it produces only slow and imperceptible effects, especially in those who, least predisposed or least tempted, use it but moderately.

In this way it has been able to infiltrate little by little the customs of our whole civilization, and by degrees to make accepted its brutalities, deaths, crimes, diseases, miseries, and degeneration, thanks to its deceitful insinuations, its siren manners, and especially its false fashionable airs, covered as they are by the pompous etiquette of fine wines, champagnes, choice liquors, and royal beers of Munich and elsewhere.

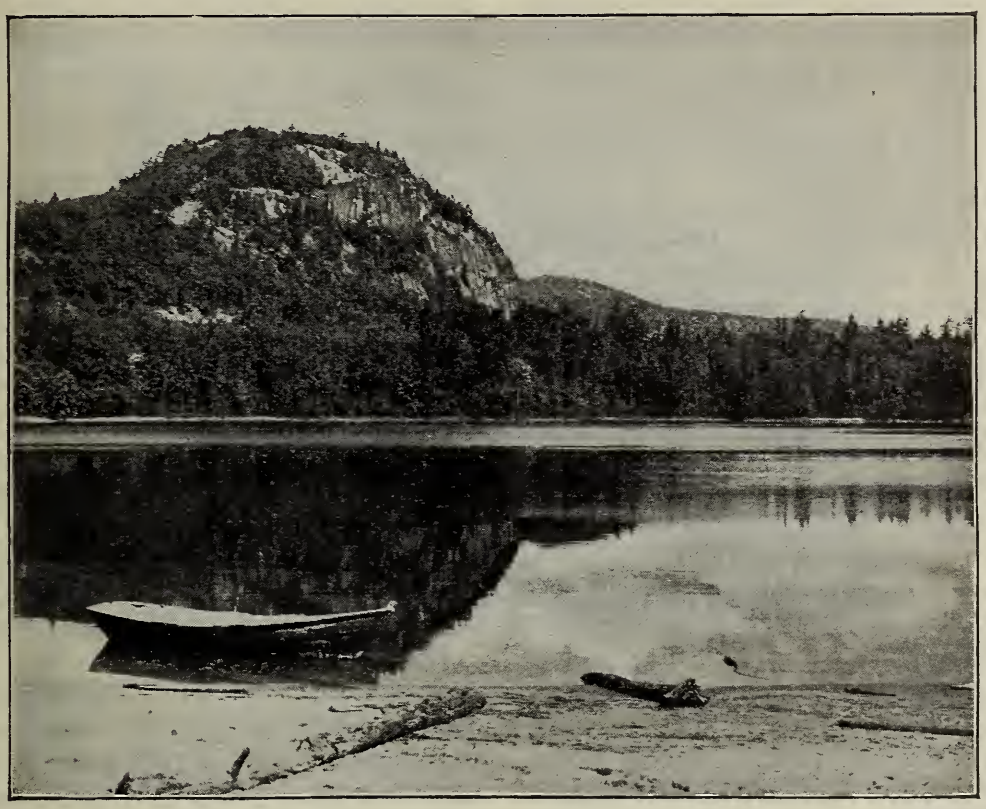
The ancients saw more clearly than we, and did not believe they ought to acquit wine, while condemning spirits to relieve their consciences. In the sixth book of the Iliad, Hector, overcome at taking leave of his loved ones, is offered wine by his mother. What answers the Trojan hero?

"O venerable mother, bring me no caressing wine to unnerve me and make me forget courage and strength."

WHY ALCOHOL IS NOT A FOOD

Since Liebig's day it has been proved that the greater part of alcohol ingested is burned (oxidized) in the body. Thus it produces heat and energy. Hence people have concluded that "alcohol is a food." This is a sophistry. On this basis, many other poisons (phosphorus, arsenic, etc.) would be foods. To nourish the body without injuring it, it is necessary that the substances oxidized within it do not impair its tissues. Heat an engine with sulphur which corrodes its sides in setting free sulphuric acid; you will make the engine go, it is true, but you will meanwhile destroy it.

Furthermore, it is proved, as far as alcohol is concerned, that its paralyzing effect rapidly annuls its fuel effect. Under its influence, the muscles, excited at the beginning only, do less work than without it. Kraepelin, Fürer, Destrée, Chauvan, and quite recently Schnyder have proved this experimentally. To dare to pretend to deny this, basing one's denial upon the experiments of Atwater (who only *re*-proved the combustion of alcohol in the body), as has been done by M. Duclaux, Director of the Pasteur Institute, is to be blinded by prejudice.



"The waters brown whose faint moved waves
Are glory tipped with gold by dying day."*

Even the so-called light drinks, wine, beer, and cider, taken in moderate doses, such as two glasses of wine or beer, are sufficient to provoke constant symptoms of cerebral intoxication, slowing and disturbance of thought, increase in the number of errors and of superficial associations, constant slowing of the time of psychic reaction, weakening of muscular strength and endurance at the end of 15 to 30 minutes.

Possible the most striking feature is that the subjects upon whom the experiments are performed do not in the least suspect the mental and muscular loss in their work when they have taken alcohol, and are each time astonished at the result. This is clear and distinct proof of the delusion into which *even moderate drinking* plunges us.

Yet numerous excellent people will cry out against this conclusion, and will swear that they never drink anything but wine diluted with water, water just colored with wine, a half glass of wine or beer daily, but that this beverage is necessary to their health, to their welfare, that the doctor has ordered it, etc.

As to this, even when the "never" is exact, I reply first that serious study of the results of the medical use of alcohol, therefore also of wine, tends more and more to limit such use, and especially to suppress it entirely as a daily habit, reserving it rather for certain exceptional indications and for a short time.

In any case wine as a "strengthener" is a myth, o rather pure suggestion,

As to the "welfare" of the user, whatever it may be in the general sensations, it is subordinate to the toxic effect. Either the dose taken deceives and slightly paralyzes the brain, then it intoxicates and for this reason even must be considered harmful, or else, being too feeble, it has no toxic action, in which case it produces no general sensation nor any effect on sociability.

And certainly, the unfortunate example that one gives to others in using so pernicious a narcotic poison, even when one is sufficiently fastidious himself not to surpass the homeopathic dose which does not harm him, that example, I say, is very bad in proportion to what it returns to him who takes it, that is to say, nothing at all.

ALCOHOLIC DEGENERATION

About three-fourths of the crimes and personal offenses are perpetrated under the influence of alcohol, most frequently under that of casual

*Courtesy of the Boston & Maine Railroad.

drunkenness, not too far advanced. (Baer, Lang, Marthaler, and others).

Ten per cent of the men above 20 years of age die in the fifteen largest cities of Switzerland, directly or indirectly as a result of alcoholism (Federal Statistics).

Almost a third of the male admissions to Swiss insane asylums which admit alcoholic patients is composed of the direct victims of alcohol.

In 30 years the insane have increased by 72 per cent in the canton of Berne. In Norway, where the consumption of alcohol has greatly decreased, the number is no longer increasing.

The English life insurance societies which insure abstainers in a separate class, for more than 50 years have found among the abstainers about 70 per cent of actual deaths out of the 100 per cent of estimated deaths. At the same time the section composed of moderate drinkers shows a death rate of 96 per cent of the estimated 100 percent.

Worst of all is the amount of hereditary deterioration caused by alcohol. I will remind you that three-fourths of the idiots of Bicêtre are of alcoholic parentage; it is the same with epileptics. As to the insane, Mlle. J. Keller has shown in her thesis the enormous importance of the alcoholic factor in ancestry, by comparing the ancestry of the insane with that of the mentally sound. But the importance of this factor springs principally from the fact that, aside from alcoholism, it is insanity itself which is by far the chief hereditary factor in affecting descendants.

But insanity is a cerebral malady which does not directly affect the germs. Hence it can only be the expression of a pre-existent defect in ancestors reflected in the descendants.

Alcoholism, on the contrary, is the generator of new defects in healthy germs, defects which once introduced repeat themselves in descendants under the form of insanity, idiocy, epilepsy, mental unbalancing and neurasthenia. Many of those thus affected are born of parents who are sober but who are tainted by ancestors who were not.

Demme has compared the descendants of ten families of drunkards with those of ten families of sober persons. Of 57 children of the former only nine were normally developed. Of 61 children in the second group, 50 were normal. Experiments upon animals give similar results.

At the Congress of Vienna, Dr. Bezzola showed by statistical charts of the Swiss federal census that the 9,000 Swiss idiots counted in one enumeration presented two maxima of conception, namely, the period of the vintages and that of the carnival, maxima corresponding to the *minima* of conceptions in general. Now these are the times of alcoholic orgies in Switzerland. But the especially striking fact is that the maximum at the time of vintage is enormous in the wine-growing cantons, not elsewhere.

Has it not been pretended, for the sake of defending alcohol, that it tends, by killing them off, to eliminate the feeble and the sick, the "rabble?" This is true, perhaps, for its most extreme victims, but they are the exception, and even strongly alcoholized individuals reproduce themselves long before their death, as do also their tainted descendants.

The one case of the descendants of the drunkardess, Adda Juke, officially investigated by Professor Pelman of Bonn, makes this clear. She has had 834 descendants. 709 have been discovered and reported, of whom 106 were illegitimate, 142 beggars, 64 supported by public aid, 181 prostitutes, 76 condemned for crime.

In 75 years this remarkable progeny cost the state $125,000,000. That is how alcohol eliminates the rabble!

Does not the history of humanity afford us enough examples of retrogressions, degeneration, brutishness in the train of enervating or weakening customs? Does not slavery always jeopardize the slave-owner? And if one looks at the matter closely, does he not always find idleness, folly, luxury, or narcotics at the root of all this decadence and of all these defects? Do we not see in our day whole races being destroyed by the cheap alcohol sold them by European traffickers? Much has been said of the "higher man" of Nietsche. For my part I have not seen him; but one need only open his eyes and look about him to be horrified by the legion of "lower men."

It is certain that the "lower men" are more quickly produced than the "higher man," and that alcohol is one of their principal procreators, doubtless even the principal one. Whoever wishes resolutely to put his hand to the regeneration of society ought not to content himself with the economic side of the social question. He must seek to help our run-down and degenerate race to rise again.

It is not civilization itself which corrupts. It is the corrupting factors that we blindly allow to develop within it without combating them, or that we even favor in every way.

THE FALLACY OF MODERATE DRINKING EXPOSED

Alcohol can be eliminated from our diet. The Mohammedans, the Russian dissenters, the great prohibitionist movement in Canada, Scandinavia, Finland, the United States, and New Zealand prove it. Some of these countries already have notable majorities of abstainers, that is of

persons who no longer touch any fermented or distilled drink.

The fact that must be grasped first of all in the alcohol question is that the vague idea of the possibility of a general moderate use of alcoholic drinks is a dangerous Utopia. If history did not prove it, good sense ought to do so.

In reality, the means of producing cheap alcohol and thus making for almost nothing alcoholic drinks decorated with all the titles of wine, beer, etc., increase daily. We have seen the effect of alcohol upon the brain and the human body. Is it to be seriously imagined that under such conditions general moderation in the use of this narcotic can be obtained? To do so, one must be terribly ignorant of human nature and of the nature of alcohol. No! One method alone has succeeded where it has been energetically employed, and it alone can succeed,—total abstinence for all from the use of alcohol in the diet. And by alcohol we mean all the distilled and fermented drinks, all the punches and bonbons containing alcohol, in short, everything which contains this poison.

"Among the peaceful harvest days
An Indian summer comes at last."

Every narcotic ought to be severely confined to the pharmacy, and should there be placed under the most vigilant control of the authorities. It is truly absurd to see the state enact laws with severe penalties and tyrannical police regulations for trifles, fire cannon at flies and cowardly bargain with the monsters which are ruining society.

When we speak of prohibition, people protest in the so-called name of liberty. In reality, it is in the name of license, of prejudice, of cowardice, and of the interests of liquor dealers. Their cynical hypocrisy recoils before nothing. They are not content with filling the papers with their jests, with deceitful tales and false statistics a hundred times refuted and continually served up again. They gag the press which does not dare to tell the truth or to support abstinence for fear of losing its subscribers. They even fit out so-called scientific experiments instituted under the auspices and at the expense of liquor-sellers in order to prove the excellent effect of wine or some other alcohol on such or such an animal. Mammon and Bacchus mutually support each other, and the nations end by putting themselves more or less in their pay.

Without doubt, the wine-growers, brewers, and distillers grow rich. Without doubt, the state depends for a large part of its revenues upon the excise or monopoly of alcohol, that is, upon the poisoning of the people. But what an unworthy play upon words to pretend that there is in this a source of national wealth! Money so earned is extorted from the poor as from the rich at the expense of health, morality, the family, and the future of the whole race. It is spent to no purpose by the taxpayer, because the work employed in alcoholic production is a cursed business which brings forth misery and ruin.

Suppress by magic all the drunkards of a country; in a few years they will be replaced by new ones. Indeed, a large proportion of the drunkards die every year without the total number being diminished. On the other hand, transform at a stroke all the moderate drinkers of a country into abstainers, and in a few years there will be no more drunkards. Moderate drinking is the nursery of alcoholism.

NECESSITY OF ANTI-ALCOHOL INSTRUCTION

What we ask is that people study to its depths the social question of alcohol, that they open their eyes to the social evil it does, that they begin to comprehend its absolute uselessness as a drink or food and its immense individual and social danger. Then they will proceed to its gradual elimination.

A nation which recognizes its duty in this respect will perceive that its treasury ought not to be based upon the poisoning of its people, because in weakening the latter in working ability, in health, and in resources it can come only to final bankruptcy. It will understand that it is its duty to oppose the use of alcohol by means of the schools and in all other possible ways: to encourage restaurants, public houses, cafes, etc., in which the sale of alcohol is forbidden; to introduce anti-alcohol instruction in the schools, and thus gradually to render wholesome the customs and health of the people.

Paris Review of Political Economy.

Primary Lessons

THIRD YEAR

THE BODY FRAMEWORK

IDEAS of civic reform are spreading so rapidly that nearly every community now has its group of men and women who are working intelligently for the betterment of their surroundings. Under such guidance, the homes of the future are to be not only beautiful to the eye and healthful for the body, but uplifting in their social and moral influences.

The men and women of the future must themselves measure up to these improved conditions, and they can do so only as the children now in school are trained to understand and practice the laws of health.

Every lesson in physiology should be a step towards this result. The different organs of the body are the tools with which we work, and one must know how to use and take care of them before he can hope to increase or even preserve their efficiency. The youngest child of school age has already picked up many facts relating to this subject. Let us find what these are and build on the foundation already laid.

For the first lessons on bones, it will suffice to call attention to their place and use in the body, and to the more obvious ways in which children can aid the growth and development of a strong body framework.

(1)

ITS USE IN THE BODY

Go out with the children and look at some of the trees in the neighborhood. Call attention to their shape. Let the children find whether different kinds of trees are shaped alike.

How is the shape of an elm different from that of an oak? from that of a birch? Are these trees unlike in winter after the leaves are gone, as well as in summer? What makes them unlike?

Let the children make outline drawings of an elm and a maple. Give them the name, skeleton, for the bare trunk and branches of a tree. Of what other use to a tree is its skeleton, besides giving it shape?

Name something else besides trees that needs a skeleton to hold it up and keep it in place. Why do people need a skeleton in their bodies? Where is your skeleton? Are all people of the same height and size? What is it that makes one boy taller than another?

Make an outline drawing of the skeleton of the body. Put your hand on a part of the body where you can feel the skeleton. What does it feel like? Why does it feel hard?

Call attention to the difference in size and shape of various parts of the body skeleton. Ask the class to find the part of the skeleton that is largest. Why does the trunk need a larger framework than the arms?

Where are the longest parts of the skeleton? Find a part of the skeleton that is nearly round?

Some parts of the body skeleton are bony boxes or cages, made to hold something. Find these parts. What are their names?

How does the skull look on the outside? Why is it covered with hair? What precious part of your body does it hold?

What kind of a covering does the chest have? What are the bony parts in front of it called? How many ribs are there? What parts of the body are shut up inside of the chest? How do the ribs and the spine help take care of the heart and lungs?

Find the parts of your skeleton that help you stand up and walk around; the parts that help you dress yourself in the morning.

Tell some of the things that you can do because you have this bony framework, that you could not do if all your body was soft like that of a jelly fish. What does the bony part of your legs help you to do? the bony part of your arms? of your hands?

What parts of the body framework can you bend or move in different directions? Find in how many directions you can move your head; your arms; hands; fingers; legs; feet; toes; your trunk.

Give the name, joints, to these parts of the body that can be bent and moved. Which joints can be bent in many directions? Why do we need joints, instead of having the body framework all in one piece?

THINGS TO REMEMBER

We can tell one kind of tree from another by its shape.

The trunk and branches tell what the shape of a tree will be.

They are the tree's skeleton.

People have a skeleton inside their bodies to hold them up and give them shape.

This skeleton is made of bone. It is hard and strong.

There are many bones in the skeleton, and they are of many shapes and sizes.

The bones are fastened together at the joints. The joints are the bending places of the body.

The bones of the skull protect the brain and keep it from getting hurt.

The bones of the chest protect the heart and the lungs.

The bones of the arms and legs are long and slim so that they can move readily.

(2)

AIDS TO ITS GROWTH

If any of the children have seen the framework of a house going up, let them tell what they can about the process.

Ask what part is built first. What are some of the materials that a carpenter uses in putting up the framework of a house? What tools does he need? When is such a house ready to live in?.

The framework of the body has to be built up little by little, like the framework of a house, but it is not done at all in the same way.

To begin with, not one of us can get a carpenter to do this work; we each have to build the framework of our own bodies for ourselves.

We do not begin at the bottom and build the framework of our feet first, then that of the legs, and the trunk, and the arms, and finally that of the head, as the carpenter builds a house.

The framework of the body is all put together and started for us when we are babies. Our work is to make each part of it larger and stronger.

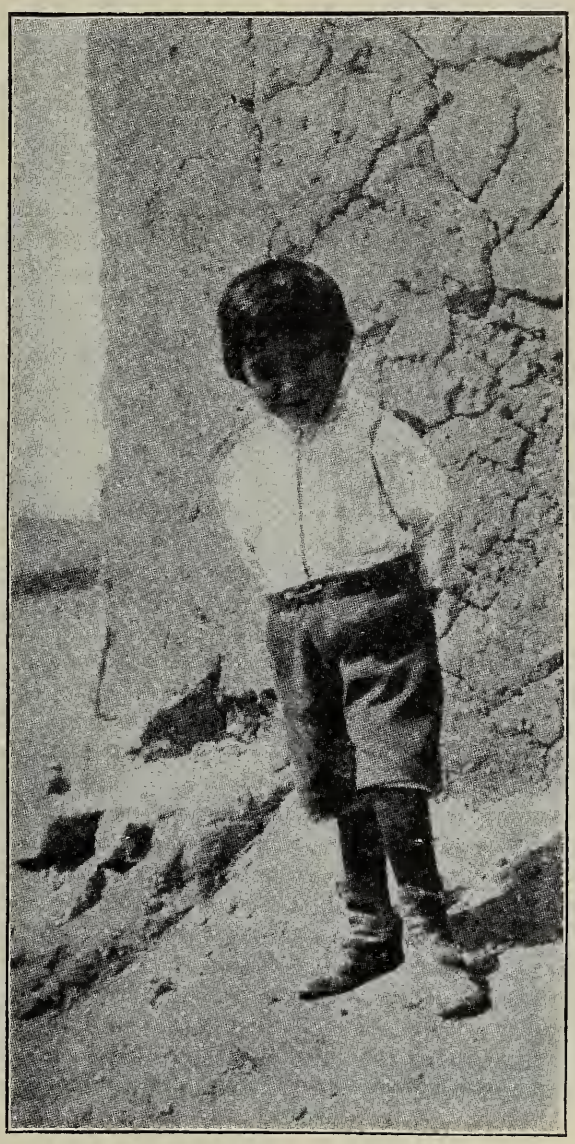
What kinds of materials must we use to make the body framework grow? Stone or brick or wood would be of no use here. We need something very different,—food.

Some of the best kinds of food to build our framework are bread and milk, eggs, fresh fruits, and vegetables.

Then we must have plenty of good pure water to drink, but no tea or coffee. We will leave that for grown-up people. And of course we will not even taste beer or any drink that has alcohol in it. Such drinks will not help us build a strong framework for our bodies. Instead, they would be likely to keep it small and weak.

Ask the children what they had for breakfast this morning that will help to make the framework grow. Help them name good foods to tell mother about when they go home to-night.

Tell a story to bring out other ways in which children can help to make the framework of their own bodies strong and vigorous. Call it



"I'm going to be a big man, some day."*

A MEXICAN BROWNIE

When Pablo was four years old, a new teacher came to the little village in New Mexico where he lived.

She was so bright and pretty that Pablo could not bear to have her out of his sight. He was too young to go to school, but nobody could keep him at home after Miss Lee came.

He was the first to come in the morning and the last to go away at night, and though he had no books and studied no lessons he learned a great many things.

"You must not carry water in your right hand all the time," he told his mother one day.

"Why not?" she asked.

"Miss Lee says it makes your bones grow crooked. And it does. Don't you see how much higher one of your shoulders is than the other?"

"You learn queer things at the American school. What else does the teacher say?"

"Oh, lots of things. She says every one of our bones is a little builder, and our breakfasts and dinners and suppers are the tools they have to work with."

"What do they build?"

"Why, our bodies. They begin when we are tiny little specks of babies. That's what makes folks grow. But it takes other things, too.

"Miss Lee says our bone-builders don't like

*Courtesy of the Home Missionary Magazine.

to work in stuffy rooms. So she has the windows open every day. When it is pleasant she has school out under the tree.

"Then we play, and Miss Lee plays with us, the very best games. Some are for our legs and some for our arms, and some for our fingers, and our heads, and our backs. That's to give all our builders a chance. If some of them do more than the rest they get bigger. That's why we have to carry things in both hands."

"Bless the child! And what else?"

"She says we mustn't smoke cigarettes, because they put our builders to sleep and stop them from working. And if they stop too long while we are little they never get caught up, so we have to stay small and short all our lives."

"Good! You are a big boy now, I want you to be a big man some day."

"I'm going to be," said Pablo.

SOMETHING TO REMEMBER

Our bones are alive. They are all little builders.

They take part of the food we eat and change it into bone like themselves.

This is what makes our bones grow larger and stronger when we are children.

Our bone-builders need good food and pure water or they can not make good bone.

Beer is a bad drink. It does not feed the bones nor help them in their work.

Our bone-builders need pure air to work in and sleep in.

They grow faster if we play and work every day.

We need to use every one of our bones, because each one grows by being used.

Our bone-builders need a long sleep every night to rest them.

We must not use one arm or one leg more than the other or we shall grow one-sided.

We must not smoke cigarettes. They put the bone-builders to sleep and hinder their work.

(3)

GAMES AND EXERCISES

Examine the dress of each child to make sure that it allows of the freest motion of every part of the body. See that there are no tight bands or garters and that the shoes and stockings fit as they should.

Take care that the child's clothing is also adapted to the weather and the temperature; that the feet and legs are properly protected, and that no parts of the body are either overheated or too thinly clad.

Illustrate the right way to sit, stand, and walk. Let the children take the same attitudes. Select those who are most graceful, and who naturally stand and walk well, as models for the class. Encourage all to do so well that they can act in this capacity.

Give short exercises in deep breathing from four to eight times a day. The chest bones are so soft and pliable at this age that such exercises given often now will soon enlarge the chest capacity and give corresponding increase in health.

BREATHING EXERCISES

1. Attention.
2. Children rise.
3. Step into aisle at right of desk.
4. Hands at side.
5. Take in deep breath while you count three slowly.
6. Breathe out during equal length of time.
7. Repeat 5 and 6 three times.
8. Children seated.

See that both boys and girls run and jump every day, outdoors when possible, in the schoolhouse in stormy weather. Show them how to jump, lighting on the toes and ball of the foot, bending the knees and leaning forward during the jump to avoid jarring the spine.

See that the children play outdoors in cold weather as well as in warm, taking care that they are suitably dressed and that they do not stay out long enough to get chilled. In very cold weather they should come indoors often enough to get warm, and then run out again.

Change the air in the schoolroom entirely at least once an hour, giving bodily exercise at the time to avoid danger to the child from draughts while sitting. Alternate physical and mental exercises so that the child has frequent change of position as well as of work.

GAMES

Make large use of motion plays of different kinds. All games of tag, Prisoner's Base, Oats, Peas, Beans, and others which bring in trades and occupations are of value in developing the body framework, and at the same time these hold the child's interest.

Select action poems from the children's reading books and from their memory work. Talk these over until all get the author's idea, then let the children act out the story. Many prose articles may be used in the same way to advantage.

EXERCISES FOR DIFFERENT PARTS OF THE BODY

Position. Arms at side, chest high, head erect, chin back, shoulders square.

Rising. Rise on toes. Lower heels to floor.

Leg. Swing each leg in turn, forward and back. Raise foot from floor. Stretch leg to front, diagonal, side, diagonal, back. Repeat, touching toe to floor with each motion.

Arm. Swing arm at side. Stretch at side, in front, over head. Clap hands. Bend fingers separately. Clasp hands and push them down, then up.

Trunk. Twist slowly to right, to left. Bend forward at hips, backward slowly, to each side.

Neck. Turn slowly to right, to left.

Head. Bend forward, backward, to each side.

Poor food, bad hygienic conditions, the privations of youth, and, above all, the use of alcohol make small men.

It is well known that in order to obtain small animals the dog merchants add alcohol to the food of their creatures, what is true of animals being also true of man.

Extreme diminution in height is noticed in those regions most addicted to the use of alcohol, where we see in fact whole villages incapable of furnishing a single conscript.

One thing a person must remember, and that is to avoid alcohol. That the occasional drink prevents the growth of the big man is a fact which can not be too frequently repeated.

French medical authorities point out that the gradual diminution of the size and height of the French conscripts is owing to the use of alcoholic drinks. The army standard has had to be reduced twice on this account. The physical deterioration of the German army, as compared with what it was thirty years ago, has excited the alarm of the Emperor. All authorities attribute it to alcohol.—A. Peres *in Paris Cosmos.*

A good way to get exercise.

TOBACCO LOWERS MENTAL POWER

The use of tobacco in any form by young boys has an undoubted tendency to lower very materially the mental force and acumen, and to render the user a person without ambition. It may even cause insanity or idiocy.—N. B. Delamater, M. D., Specialist in Mental and Nervous Diseases.

TOBACCO INJURES DEVELOPMENT

It [tobacco] is positively harmful to the development of the physical and mental powers of our growing youth. Statistics show most markedly the contrast in physical and mental standard between the boy who uses tobacco and the one who does not.—L. D. Mason, M. D. Brooklyn, New York.

The lesson one day was a story about flies, their curious ways and habits. Among other things the story said that flies always kept their faces clean, and then went on to tell how they rubbed their feet over their heads, as could often be seen by watching them.

The last thing in the lesson was the question: "What lessons can boys and girls learn from the flies?" Only one small boy ventured an answer, and that was, "To wash our faces with our feet."—*Christian Register.*

Alice, aged three, came in to dinner, her hands sticky with pitch.

"Where have you been to get all this pitch, Alice?" asked mother.

"Been out to the barn," responded Alice; "Mutht be I got it off the pitchfork."—*Little Chronicle.*

WINTER LULLABY

BY JULIA H. MAY

The valley has gone to sleep,
The birds in their nests are still,
And the maple branches bend and weep
Over the leafless hill.

Till the pitying sky looks down
And whispers to the snow:
"Let us cover the hills so bare and brown
Where the flowers used to grow."

And she croons a lullaby
Through the hush of the storm:
"Sleep, sleep, in your cradle deep.
I will keep you warm;
Oh, sleep, sleep, sleep."

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NOVEMBER

Strange month of moods! When even Nature feels
How sad a thing it is the turning gray!
Yet over her the joy of April steals,
When some late bird sings from a leafless spray.

With spring-like skies come back spring memories:
She half forgets how near her winter is.

—CHARLOTTE FISKE BATES.

THE POWER OF LOVE

"LOVE Me, Love My Dog." What is the secret of this spirit of kinship that leads the boy to demand for his dog an equal share of the love he prizes? Watch the dog when the boy comes home from school. Every inch of his body quivers with a delight that runs through his canine spine and wags its termination with an enthusiasm that threatens to dislocate that stubby tail. He climbs upon the boy barking his joy which if it only could be expressed in articulate speech would say, "I love you, Tom, I love you. I am overjoyed to see you."

Nothing human can exceed the zest with which the dog bounds with the boy over the fields, sharing his sports. True, it is only dog love, but it is intense, sincere and individual. Tom knows that he can trust it, that it is not of the vagrant variety that will forget him for any new sweetheart that may chance that way; that besides being true in sentiment it is true also in action, and that every particle of his dog's being is pledged to him for better or for worse until death does them part.

It is this certainty of the dog's affection and its expression that binds the boy to the dog, and at the same time reveals the approach to the heart of the boy. Love is the open door to the heart of boy or girl. If the teacher really loves the boys and girls in the school or class the pupils know it, for that love will find expression in the teacher's looks, words, and deeds, even in dealing with delinquents. For such a teacher the discipline that is necessary to the progress of the school is comparatively easy. The roughest boy who resents an injury done to his dog that loves him will be on the defensive for the teacher of whose love he feels equally sure. Such a boy will be the more ready to apply himself to the tasks the teacher assigns until he becomes interested in the subjects he is studying and thus a foundation is laid that may eventuate in the scholar who loves knowledge for knowledge's own sake.

Truly, love, not weak, mushy sentimentality, but the wise, broadminded love that rejoices in and seeks the utmost good of others is "the greatest thing in the world."

AN INTERNATIONAL CONTEST

THE battle against alcohol is an international contest in which all nations must engage, for all have felt the ravages of this foe. The United States had a nineteenth century pledge signing crusade which was so successful that, in 1861, a majority of the people were abstainers. The old drinking habits of the fathers were abolished. But the Civil War came with all its horrors, in which many a pledged young soldier acted on the belief that it was physically and morally right to take alcoholic liquors to help him endure the stress and strain of battle. When the war was over human chattel slavery was gone, but the slavery of alcohol had gained a new lease of life, and the temperance battle had to be begun all over again. It was the old story, "My people are destroyed for lack of knowledge."

But a marvelous thing happened. Modern science entered the field, proving that alcohol in all forms deceives instead of adding strength or power of endurance, and thus is an outlaw which should be outlawed from human habits and traffic.

More marvelous still, the legislators of the national Congress and of every state in the union enacted laws requiring this story of what science has revealed against alcohol to be taught, with other laws of health, to the children in the public schools of the land. This compulsory education which began in one section of our country twenty-two years ago has been practically universal for more than a dozen years throughout this republic.

As a result, public sentiment against drink is being developed with startling rapidity wherever, as the law requires, every public school child is learning, in each of the primary and grammar grades and in the first year of the high school, the progressively developed story of the evil character and effects of alcoholic drinks and other narcotics, in connection with the laws of health, and when every such child

who is able to read has been given the help of a text-book adapted to his use.

In Ohio, last June, as the new local option law was going into force, the gentleman in charge of the campaign remarked, "Our surprise is unbounded. District after district in Cleveland is going dry. It is the temperance instruction in the schools that has done it."

A letter just received from Mrs. Clark, the President of the Ohio State Woman's Christian Union, says:

"Under our new local option law more than half our villages and three-fourths of our townships are free from saloons. Four cities and five counties are entirely dry, and several counties dry except for one little place in each. Scientific temperance instruction has been a great factor in this progress."

Good news comes from New York and Illinois which have splendid scientific temperance laws that do not permit taking the study from any of the lower grades, or text-books from pupils above the primary.

Dr. Harris, United States Commissioner of Education, returning from a trip through the southern states, said to me, "Temperance education has told in the south. It has made the sentiment that under local option laws is sweeping their states for prohibition."

"Love me, love my dog."

Our national Bureau of Education tells us that the average public school attendance is not quite five years of two hundred days each. To provide for this study only in upper grades is to provide for the perpetuity of existing conditions, namely, a minority educated against the use of alcohol who vainly try to vote down the majority who have not been so educated. The brewers favor this plan. They movingly appeal "against this study for children of tender years." Such a plan would keep back the cause of temperance indefinitely. From it, "God save the state!"

The truth against alcohol is out and the nations of the earth are demanding that it shall be taught their children, turning to us in the United States for help. Many appeals have come within a few days. First an official delegation from Sweden which has had a good temperance education law for twelve years but no scientific temperance school text-book. When this lack is supplied and the study put on the same footing as other regular branches, it will be a success.

Last week the secretary of a committee representing the 15,000 registered physicians in England, Scotland, Ireland, and Wales who recently signed a petition for such scientific temperance instruction in their public schools as we have in America wrote that this great army of physicians wished to accompany their petition to all boards of education with a letter telling how much study is given to this subject in American schools and in what grades or standards it is pursued. They have been told in reply that if they wished for results they must insist upon systematic study in all grades below the ninth and also in the first year of the high school, with text-books adapted to grade in the hands of pupils able to read.

Before that reply was finished there came throbbing over the wires a request for an audience from a gentleman sent by the German government to study and report on the manner and methods by which the science of health and temperance is taught in the American public schools.

Meanwhile people from all countries are coming to us needing to be educated to total abstinence, and in this work all temperance organizations should unite. A twentieth century pledge-signing crusade has been inaugurated and two English workers, Mr. and Mrs. Tennyson Smith, are now in this country joining hands with us in the world-wide struggle. Such a crusade follows naturally upon the development of public sentiment by education. It is the logical outcome. But we can never relax our educational efforts, for each year brings into the schools a new army of the uninstructed to be taught the same scientific facts concerning the nature and effects of alcohol, and to be saved to sobriety and healthful living.

MARY H. HUNT.

Grammar Lessons

SEVENTH OR EIGHTH YEAR

THE NERVOUS SYSTEM

AS Dr. Forel has ably shown in another column, civilization contains within itself the elements that make for human improvement and those that tend toward its degeneracy. This makes it the duty of the leaders of mankind to foster the one by every means within their power and as resolutely to combat the other.

What is true of the race is true in a measure also of the individual. Every teacher sees in her pupils the same conflicting tendencies toward right and wrong, progress and retrogression, and must strive to promote the nobler tendencies and repress the baser.

This, indeed, is the great problem of education,—teaching the child to control himself, his thoughts and acts, as perfectly as his brain and nerve centers control the organs and processes of his body.

Study of the nervous system should serve as an illustration and incentive to this nobler work of self-control. As the pupil learns of the wonderful way in which messages are continually being sent back and forth through his body without his knowledge,—keeping his heart beating and his lungs breathing as steadily when he is asleep as when he is awake,—he should learn also of that other work of his nervous system which is entirely under his own direction and for which he is always responsible.

He finds that he can not decide when his stomach shall begin to digest the food that is put into it, but that he can and must decide what food he will take into his stomach, hence he must know what foods are wholesome and what are injurious, and must train himself to eat the one and refuse to touch the other. So he must decide whether he will learn his lessons and speak the truth and obey his parents and teachers, or whether he will be idle and untruthful and disobedient. Above all, he needs to know that the way in which he decides these questions and hundreds like them, now while he is a boy, and keeps on deciding them will determine the kind of habits he will have when he is a man, and thus the kind of man and citizen that he will be.

Instead of studying first the structure of the nervous system, let the first lessons for this grade be on

ITS METHODS OF WORK

Before giving the class anything to prepare by themselves, explain to them the different ways in which the nervous system does its work,—by obeying the orders that each person gives to it through the brain, and by acting of itself without the knowledge of the person.

Ask some one to raise his arm above his head, and to tell how he is able to do it.

He may say it is done by the arm muscles, but that is not the whole story. What causes one set of these muscles to contract and another set to expand in such a way as to lift the weight of the arm?

There must be some part of the body from which an order can go to these muscles, and there must be other parts which can carry the message. The parts of the body that do these two kinds of work make up the nervous system.

Have a large chart or drawing of the nervous system ready to show at this point. From it let some one in the class find the brain, the central office of this system, and the nerves which carry the messages from this central office to every part of the body. Call on some else to trace the connection between the brain and the muscles of the arm.

How did word get to the brain that the arm was to be raised? Let the class answer this question if possible. Otherwise tell them that when the boy was told to raise his arm the sound was carried through the air to the nerves of his ears. These nerves (sensory) carried the message to the brain, and this, in turn, sent word by another set of nerves (motor) to the biceps muscles of the arm telling them to contract and raise it.

Let the class trace the course of both sets of these messages, that from the ears to the brain, and that from the brain to the arm. Suggest other things to be done by different ones in the class, asking them in each case to explain the process and trace the course of the messages sent, until all have a good idea of this kind of work done by the nervous system.

But it is impossible for all the orders that need to be given to the different parts of the body to be sent out from this one central office, the brain, or for the owner of the office, the person himself, to give all the necessary orders. If the work had to be done in this way it would

take all one's time to give the orders that would be needed to take him where he wanted to go, and those that are necessary to keep him alive. He would not dare to go to sleep, for fear his heart would stop beating or his lungs stop breathing.

To prevent this difficulty there are a number of smaller offices, or sub-stations, all along the backbone which receive and answer many of the messages from the organs of the chest and the abdomen. Find from the chart these smaller nerve centers and the nerves which lead from each to the heart, lungs, stomach, etc.

Find also how these organs are connected directly with one another through nerve centers. By this means, whenever one organ acts all those connected with it act also. When food is taken into the stomach, for instance, all the digestive glands know about it through the connecting nerves and at once begin to secrete the proper juices to digest it. So with other organs of the body which must work together.

The nerves and nerve centers which send and receive all messages of this kind are called the sympathetic system, because they enable the organs they connect to work in sympathy with one another.

You all know how hard it is to do an entirely new thing easily and gracefully, such as skating or typewriting, for instance.

At first, every such order has to go from the brain, because one has to think about it, and with all his thinking he will probably make mistakes and send a good many wrong messages.

But after much practice, one can typewrite without looking at the keyboard at all, or he can skate and think about something else at the same time.

The reason is that nerves which carry messages from the skin on the hands and feet and other parts of the body to the brain are connected at the spinal cord with the nerves which take the answers back to these parts.

In this way, when the fingers touch the keyboard, or the feet touch the ice, the nerves of sense do not have to carry the messages all the way to the brain unless one wishes them to do so. They can get an answer back much more quickly by connecting at the spinal cord with the nerves of motion which tell the muscles of the hands or feet how or when to move.

Then, too, one movement suggests the others which usually follow it. Thus, after one has written a word or a group of words many times, or has had a good deal of practice in skating, he has only to strike the first letter of such words on the typewriter, or touch his feet to the ice, to find himself writing or skating without the least conscious effort.

In all such cases the message of motion comes from the spinal cord instead of from the brain. This is reflex action of the nervous system.

Let the class look up the meaning of the word, reflex, to find why this action of the nervous system is so called. They should then give illustrations of their own of reflex action to make sure that it is perfectly understood, tracing the course of all such messages through the spinal cord and back again to the part of the body that is to be moved.

Following this general class talk on the work of the nervous system, should come individual text-book study by the pupils of these topics, until they clearly understand the distinction between voluntary and reflex action, and the use of the sympathetic system; and can point out from the chart the nerves and nerve centers which act in any given case, at the same time telling what messages would be sent, and tracing the course of each.

ITS STRUCTURE

Knowing something of the work of the nervous system, the next step is to study the mechanism by which this work is done.

Certain facts have already been brought out, —that there must be a central office which can communicate with all parts of the body, together with a number of smaller offices to assist in this work; and that there must be connecting fibers to carry messages to and from this main office and its branches to all parts of the body, and from one part to another.

Befor ebeginning to study the nervous system, the class should know that, like every other part of the body, it is made up of cells. They are now to learn that each of these cells has at least one branch or fiber joining it to other cells, and that it may have many such branches over which messages are constantly being sent and received.

Refer the class again to the chart of the nervous system. Why is it that some of the nerves shown are larger than others? Show a piece of electric cable or a bit of rope and call attention to the many smaller wires and strands of which each is made. Explain that the large nerves of the body are made up in the same way of many small nerve fibers. Have the class find where these main nerve trunks branch off in different directions, and let them trace the course of these branches to the different organs of the body.

Show an enlarged drawing of a nerve cell with its branches. Let the class find from their books what it is composed of and the special function of each of its different parts,— the protoplasm, nuclei, nucleoli, pigment, dendrites, neurites; also the meaning and use of nerve

tissue, and the reason why nerve trunks and nerve tracks are white in color while nerve cells are grayish.

In some classes, a sheep's brain may be used to good advantage in studying the structure of this organ. In other cases it will be better to defer such examination until the high school or college is reached, and to depend upon drawings and pictures for such knowledge of the structure of the brain as is necessary in grammar grades.

Whichever method is used, the class should learn the reason for the many irregular folds in the surface of the brain, and be led to think why these folds are deeper and more numerous in the case of thinking people and brain workers than in savages, and why the brain of an animal has even fewer of these folds and creases than that of ignorant or savage people.

Have a drawing of the brain put on the board, and after individual study of the subject test the pupils' knowledge by requiring them to locate from this drawing the brain centers which direct the different functions of the body. In a similar way test their knowledge of the differences in function between the cerebrum, cerebellum, medulla oblongata, and the spinal cord, until satisfied that each pupil has a coherent idea of the structure and work of each of these main parts of the nervous system.

BRAIN AND NERVE CONTROL

All that has gone before in the study of the brain and nerves should be preparatory to the fullest possible study of this topic. It is of no advantage to have a splendid system of communication between the different parts of the body unless this system is kept in good working order all the time, and grows in efficiency as the person grows.

This makes it necessary for every young person to know what he must do in order to have a strong, vigorous nervous system. Healthy brain and nerves require a healthy body to begin with, and both can come only through right living.

Have a general class discussion as to what right living is,—what it means as to food and drink, clothing, pure air in living and sleeping rooms, exercise and rest, and other rules of hygiene. Then refer the pupils to their textbooks for individual study of these topics.

Besides health, there must be training of the nervous system, because on its efficiency depends the good work of every organ in the body. The sensory nerves get their training through each of the five senses which tell us what is going on in the world. When we pay attention to what we should see or hear or learn through any of these sense organs, and take care that each of them sends a true report to the brain, we are giving them the right kind of training; when we are careless or inattentive, we are giving them bad training which they may never get over.

So with the motor nerves which carry messages from the nerve centers to the muscles of the body. They are trained to work well and quickly by sending the same messages over and over, and thus getting the same results. If we do a thing one way today and another tomorrow and a third way the next day we can do it very little better at the end of a week or month than at first. But after doing the same thing in the same way for a time it constantly grows easier, and can also be done much quicker than at first.

In this way the nervous system is all the time being trained to be either a help or a hindrance. Call for illustrations from the class of ways in which both may be true.

In this connection bring out the special danger in beginning to drink or smoke,—that of forming habits which one may never be able to break, or at least not until the nervous system and through this every part of the body has been more or less injured, perhaps so severely that recovery is impossible.

Huxley has well said that the most valuable result of education is the ability to make yourself do the thing you ought to do, when it ought to be done, whether you like to do it or not. This is the positive side, but there is a negative side as well, that of keeping yourself from doing the things you ought not to do, when they ought not to be done, whether you like to do it or not.

Show the class Rose Bonheur's world-famous picture of horses reproduced on page 47. Each is represented not only as possessed of all the good qualities of a noble animal, but as being free from blemishes. If this is admirable in horses, it is an ideal even more to be desired and striven for by men and woman and by boys and girls who are to be the coming men and women.

AUTHORITATIVE QUOTATIONS

TOBACCO ENSLAVES THE BODY

The whole physical organism is enslaved by it [tobacco]. It is making terrible inroads among the boys of today, drafting, depleting, stupefying the brain, enervating the nervo-muscular system, and impairing the intellect. More than a score of diseases are traceable to the use of the weed. The young are vastly more susceptible to the narcotic poisoning than those of adult years.—D. H. Mann, M. D.

TOBACCO LESSENS SELF CONTROL

The earliest effect of the tobacco habit is

upon the heart, through its nervous mechanism; then upon the general nervous system, including the brain (the latter showing itself in insomnia, loss of memory, and later in want of proper mental control). Finally, the nutriment of the entire system suffers.——CHARLES GATCHELL, M. D., Chicago.

TOBACCO HEADACHE

The use of tobacco in any form is injurious to the nervous system. In addition to the tobacco heart so well known, there is a tobacco headache, attacking the patient once or twice a week. Most of the victims are not aware of the cause. All forms of tobacco are prepared, or "doctored," to make them attractive to customers, but I incline to think that the bad effects are mainly due to the tobacco and not to the adulterants.—EDMUND ANDREWS, A. M., M. D., LL. D., Professor of Surgery, Northwestern University.

says, "not one pupil who used tobacco has stood in the first rank in the Northwestern University in nine years. As the scholarship is lowered, the ratio of tobacco-users increases."—N. A. RICHARDS, Supt. of Schools, Saginaw, Mich.

The Educational Society has secured figures which show that of the 215 boys in grades four to eight inclusive, in the Bloomingdale, Ill. schools, 68, or 31 per cent, have smoked cigarettes from one month to three years, and that not a single boy who smokes has made an excellent record in his class work. Of those who smoke, the figures show that 46 per cent fail of promotion, and that 14 have spent two or more years in the grades in which they are now.

MODERATE USE OF NARCOTICS DIMINISHES WORKING ABILITY

The habitual, even moderate use, of a narcotic can never increase physical or mental work-

"Not to be conquered, but to stand free,
This is to live, and win the final praise."

TOBACCO WEAKENS THE WILL

More young men break down in body and mind and go astray as a result of smoking than of drinking. Tobacco soothes the excited nerves to render them ultimately more irritable. It produces debility in self-restraint, and weakens the power of the will. It diminishes mental capacity, corrupts the moral sense, and stimulates the animal nature.—MATTHEW WOODS, M. D., Amer. Med. Ass'n.

SMOKING MEANS POOR SCHOLARSHIP

Of twenty smokers in one schools, all but one are slow thinkers, and none of them think quickly. Eight are reported as very slow mentally, and three absolutely dull.—P. L. LORD, in the *Moderator*.

Tobacco in any form dulls the mind of the pupil. "With a single exception," Dr. Fisk

ing ability, but instead, diminishes both, more or less, qualitively and quantitatively.—AUGUST FOREL, M. D.

Whoever would give himself wholly to his business can not allow his physical, mental or moral health to be dissipated by the use of stupefying substances, whether chloroform, ether or alcohol.—MATTHAEI, *in Die Erhohung der Kriegstuchtigkeit.*

EFFECT OF ALCOHOL ON MENTAL FUNCTIONS

Worst of all is the disturbance and diminution of mental functions which is recognizable and measureable even after one glass of beer or wine, or a glass of brandy.—MATTHAEI in "*Die Erhohung der Kreigtuchtigkeit.*

About half of all mental diseases are due either directly or indirectly to alcohol.—MATTHAEI in *Die Erhohung der Kriegstuchtigkeit.*

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PHYSIOLOGY TOPICS FOR NOVEMBER

PRIMARY—The Body as a Whole; What we can do with it. Exercise and Rest. Growth and Repair. Cigarettes. How the Body is held upright; Uses and Care of the Bones.

INTERMEDIATE—The Body as made up of Parts: Uses and care. The Body's Need of Cleanliness: Uses and Care of the Skin.

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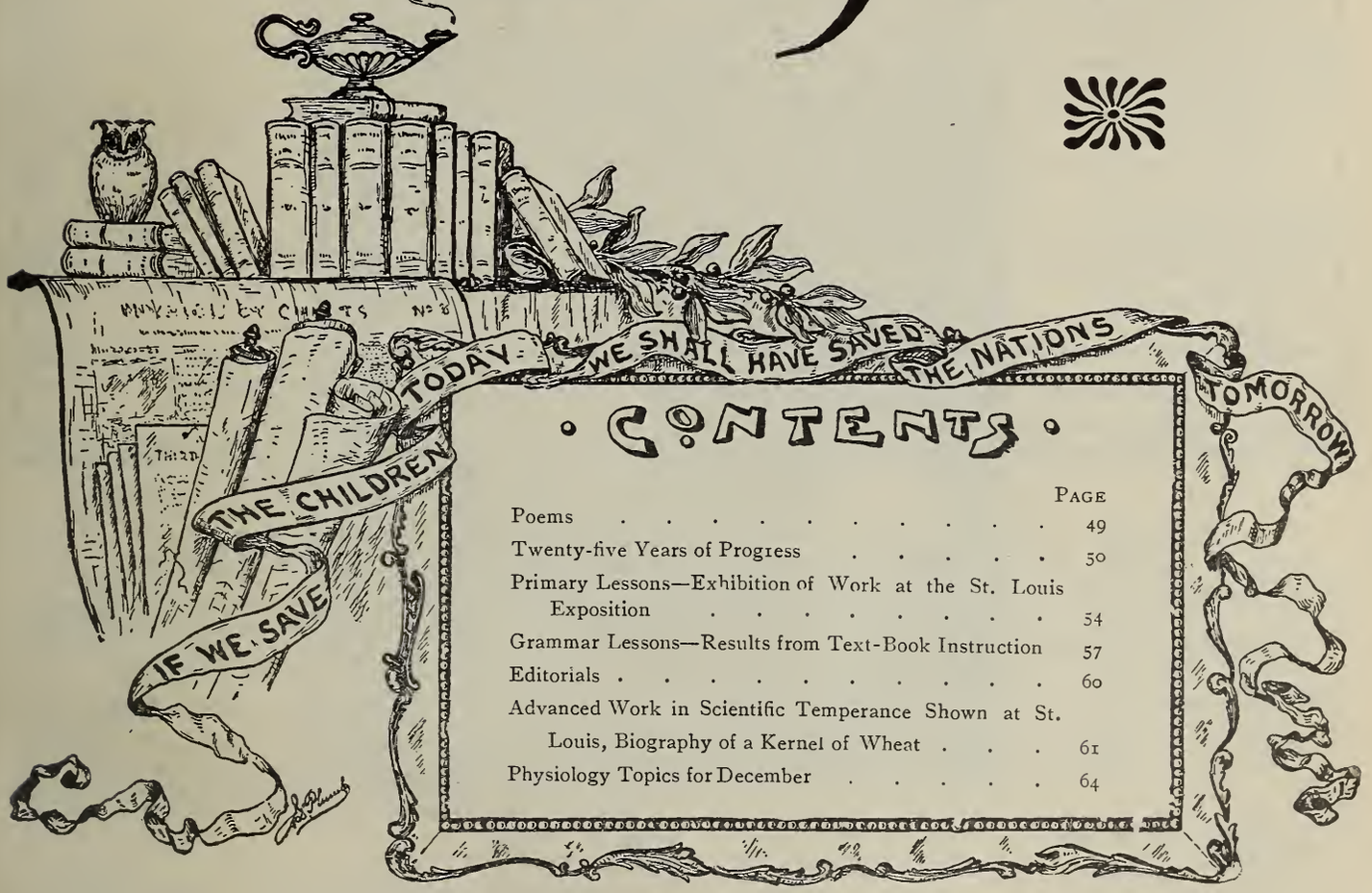

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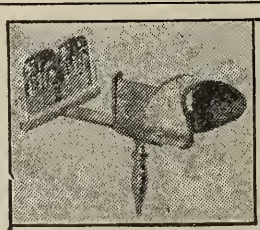

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INSPIRATION

"THE mightiest souls of time hover o'er us,
Who labored like gods among men, and have gone
Like great bursts of sun on the dark way before us;
They're with us, still with us, while we battle on;
Looking down, victor-browed, from the glory-crowned hill,
They beckon and beckon us on, onward still!"

NOBLE DEEDS

BY S. K. BOLTON

He built a house, time laid it in the dust;
He wrote a book, its title now forgot;

He ruled a city, but his name is not
On any tablet graven, or where rust
Can gather from disuse, or marble bust;

He took a child from out a wretched cot,
Who on the state dishonor might have brought,
And reared him to the Christian's hope and trust.

The boy, to manhood grown, became a light
To many souls, and preached
The won'drous love of the Omnipotent.

MARY HANCHETT HUNT
Director Bureau of Scientific Temperance Investigation and Superintendent Department of Scientific Temperance Instruction of the World and National Woman's Christian Temperance Union.

The work has multiplied like stars at night
When darkness deepens; every noble deed
Lasts longer than a granite monument.

BODY HELPS SOUL

BY EDWIN ARNOLD

Not mean, nor base,
But of Heaven's best upbuilding is this House
Fashioned for man: The City of nine gates,—
Wonderful, subtle, sacred;—to be kept
Fair and well garnished;

Graced with ornament
Outside and in, and wardened worthily,
That, in its ordered precincts, angel's wings
May float and fold, and Body help the Soul,
As Soul helps Body.

THE REFORMER

BY E. R. SILL

Before the monstrous wrong he sets him down—
One man against a stone-walled city of sin.

For centuries those walls have been a-building;
Smooth porphyry, they slope and coldly glass
The flying storm and wheeling sun.

No chink,
No crevice lets the thinnest arrow in.
He fights alone, and from the cloudy ramparts
A thousand evil faces gibe and jeer him.

Let him lie down, and die; what is the right,
And where is justice, in a world like this?

But by and by, earth shakes herself, impatient;
And down, in one great roar of ruin, crash
Watch-tower and citadel and battlements.

When the red dust has cleared, the lonely soldier
Stands with strange thoughts beneath the friendly stars.

ON HILLTOPS

ONLY the hilltops catch the golden splendor
Of slowly sinking suns—
While valleys lie within the deepening shadows,
Where earlier twilight comes.

So shines a light where souls thro' earnest striving
Have gained life's higher ways;
These human peaks of lofty thought and purpose
Catch bright, celestial rays.

Rise to the hilltops of thy moral being,
Bask in that sunshine's glow,
And radiant beams that reach not lower levels
Will light thy path below.

Selected.

TWENTY-FIVE YEARS OF PROGRESS

BY MARY H. HUNT

THE cause of temperance, formerly based on evanescent sentiment and fluctuating opinion, rests today on the firm foundation of demonstrated science. More than that, the truths of this science, which prove beyond cavil that total abstinence from alcohol and other narcotics is a law of nature that can be disobeyed only at a risk, are being taught the coming millions in this country who are in our public schools.

THE BEGINNING OF SCIENTIFIC TEMPERANCE

The story of my relation to these facts is as follows:

In 1879, I first carried to the National Woman's Christian Temperance Union in convention assembled at Indianapolis, Indiana, the conviction that for a long time had been haunting me, namely, that prevention through universal scientific temperance education in the public schools would solve the alcohol problem. A resolution adopting the idea as a line of work was passed by that convention. A standing committee, of which your national superintendent was chairman, was chosen to translate that resolution into action. The following year, in 1880, this committee at the request of its chairman was merged into a department with a superintendent at its head whose duty it should be to originate and direct plans of work to be executed, in the endeavor to establish this form of education.

ENACTMENT OF LAWS

Twenty-five years have rolled by since that conviction took shape as an organized feature of the Woman's Christian Temperance Union under the direction of its present superintendent. During these twenty-five years this educational idea has been embodied in the laws of the entire country. These laws are more or less stringent in their requirement that the nature and effects of alcoholic drinks and other narcotics shall be taught, and shall be studied as a part of physiology and hygiene by the pupils in all schools under public control. There are 22,000,000 children of school age in this country. These millions are the coming men and women of the nation, its future law-making power.

It has taken twenty years of planning and exacting toil to secure the passage of these temperance education laws by Congress and by one after another of the forty-five states of the nation.

When our Lord commanded his followers, "Go ye into all the world" and bear the message of my truth, he did not promise that the way of that going should be a thornless path; but He did say, "Lo, I am with you alway, even unto the end." And He has been. He has never let the scientific temperance worker or leader forget the conviction, as a motive power for action, that the republic will perish unless alcohol is abolished from human habits and traffic, and that it can never be abolished except through teaching the whole people the truth about its evil nature and effects.

The history of the enactment of these temperance education laws is the history of the invincible march of the purposes of mercy for our own and for other nations of Him who said, "I am the Truth. The Truth shall make you free."

Before these purposes, as we review their character in this climacteric hour, we bow with reverent gratitude that He has let us have some part as standard-bearers, while to Him be all the glory, whose truth we have tried to uphold.

The undertaking, begun twenty-five years ago, was the education of a nation in the physiological reasons for obeying the laws of health, including those that teach abstinence from alcoholic drinks and other narcotics because of their evil nature and effects.

The enactment of the laws requiring the study was the smallest part of the seemingly impossible work of getting an unwritten science, for that is what scientific temperance instruction then was, incorporated into the public school system of a nation of 50,000,000 people.

We were at that time in the condition that Great Britain, Sweden, Germany, France and other European countries now are, namely, that of desiring the truths about these topics taught, when neither teacher nor pupil was furnished with a statement of what the truths are that should be taught.

PREPARATION OF BOOKS

Our task, however, was a harder one than that of our friends in Europe now is for whom the American school text-books on temperance physiology have blazed the way. Twenty-five years ago no one had gathered the truths on this subject from their many sources and arranged them in manuals of instruction furnishing a progressive study through the grades of the public schools.

The sources from which these truths are derived are: anatomy, which treats of the structure of the body; physiology, which treats of its functions; general hygiene, of the laws of graded school text-books containing the whole truth and nothing but the truth on these subjects have been prepared and are being studied in the public schools of America. The publication of these books with their definite statements of proved truth against the use of all forms of alcoholic drinks, even in so-called moderate amounts, brought the cause at once before the firing line. Shots of opposition came from men who like the drink, from those in the trade, and from others who pose as "temperance people and total abstainers," *but* who say they are opposed to teaching temperance physiology to little children of tender years, and especially opposed to text-books in the hands of pupils

health; fermentation, which shows why the healthful juice of fruits and grains becomes a poison in wines and beers; chemistry which teaches the component parts of substance; toxicology, the science of poisons; pathology, the story of the physical, mental and moral effects of alcoholic and other narcotic poisons and of the consequences of disobeying other laws of health; and also psychology and child study which show what progressive truths the child can understand and needs to be taught during the succeeding years to shape his habits which are rapidly forming.

To expect the average teacher of any grade to glean from all these separate sciences the truths needed by his class, or to expect the primary or lower grammar grade teacher to adapt lessons for her small pupils from an advanced text-book without changing the meaning of the truths there stated in technical terms is in both cases to expect the impossible. Thus, it was self-evident from the first that, without series of text-books in temperance physiology well graded to the capacities of all classes of pupils, from the first primary to the first year of the high school inclusive, the scheme of scientific temperance instruction as a preventive of intemperance would be a failure.

But that scheme has not failed, because who can read, in the lower grades.

But through all God has stood by his cause. He has provided in advance the disproof of the charges against the great fundamental truths concerning alcohol which the schools of this nation are teaching its children, a teaching which is making America the most sober of the great nations.

RESEARCH WORK

But God never does our part. If, for twenty-five years, I had not kept up the research work that the convention last year recognized as the Bureau of Scientific Temperance Investigation,

we should not have known that exact laboratory experimentation had furnished the very evidence needed to refute Professor Atwater's theory that alcohol is a food; nor could we have proved false the charges made by the Committee of Fifty and by others.

As the Trojans were bidden to beware of the Greeks bearing gifts, I bid you beware of the siren-voiced advocates of committees made up of so-called friends and of opponents to scientific temperance instruction "to see if an agreement can be reached satisfactory to all."

The desired agreement satisfactory to these would-be committee makers has thus far proved to be the recommendation that this subject, as

a systematic study with books for the use of pupils who have books in other subjects, shall be taken from the lower grades of our public schools. This would take the study that is making non-alcoholic sentiment from a majority of the coming voters of this country, for the National Bureau of Education reports the average limit of school attendance in the United States to be a little less than five years of two hundred school days each. It is self-evident that the majority of the coming citizens of this country, its future law-making power, are in the first five grades or years of our public schools. Hence any attempt to take the study of temperance physiology from any of the lower grades (years), or text books on this subject from pupils who have books in other subjects should be opposed to the utmost.

FALSE CHARGES REPELLED

The charge of the Committee of Fifty, in their report published in 1902, that the compulsory study of temperance physiology in America is "an excrescence, an incubus engrafted upon our public school system," was a serious reflection upon the legislators of this entire country. Every member of the national Congress who had voted for these temperance education laws either for his state or nation, and most of them had, was therefore interested to find in the *Reply to the Committee of Fifty* that every accusation was groundless which this Committee had made against the study his vote had helped put into the schools.

The unanimous vote of the Senate of the United States, on motion of Senator Gallinger, M. D., to make this Reply *Senate Document* 171 was an act of far-reaching national significance. This government indorsement dispelled the fears of honest doubters, and encouraged the hearts of all who long to see the last traces of alcoholism abolished from our land. The more than 100,000 copies of this *Reply*, distributed through the mails and by our Woman's Christian Temperance Unions, were so many evidences that there is no defense for the most moderate drinking nor excuse for opposition to teaching total abstinence to the children of this nation.

TEMPERANCE INSTRUCTION AND BUSINESS

Twenty-five years ago there was not in all the world a law requiring the public school study of scientific temperance. The people believed that alcohol, moderately taken, was not only harmless but useful, adding to strength and skill in labor. The teaching of the school to the contrary, that alcohol is a poison which impairs skill and injures working ability, appeals to the hard-headed business sense of the country, which consequently demands total abstinence today as a condition of employment for all grades of employes.

The effect of this upon our country is well stated by Professor Justus Gaule of Zurich, Switzerland, in a recent published article entitled *Muscles or Nerves*, in which he says:

"In America, step by step the machine has taken the place of muscles, until only the American's nervous system is needed to control and make the machine serve him more completely. It is characteristic of the American workman that he has become a nerve-man. The time has now come when the two types of men, the muscle-man and the nerve-man, must measure forces with each other.

"But how has the American workman become a nerve-man? The alcohol-free air of America as compared with that of the countries of Europe is an explanation. America pays her workmen more because, as nerve-men, they give back more. In a rivalry between the old and new world on the basis of present ability to produce, the old world would have to go under.

"How shall this danger be averted? First of all by combating that which makes the nervous system incapable of further development, alcoholism. The alcohol-free atmosphere of America is a result of the instruction in the public schools concerning the influence of alcohol. The Americans by this instruction concerning alcohol have done their country a greater service than they think. Such instruction can not be imparted without a foundation in physiology, giving the idea that human life is based on definite laws. The transition from muscle-man to nerve-man begins with this instruction in earliest years. In order to accomplish this transition, we in Europe must broaden the instruction in our common schools by intelligent study concerning the powers of the human organism and the dangers which threaten it from alcohol."

No nobler comment than this from so distinguished a scholar on the results of the twenty-five years' work of this department could be asked.

CONSUMPTION OF ALCOHOL DECREASING

In spite of the fact that during the last twenty-five years there have come to this country 11, 719, 823 people bringing old world drinking habits with them, the per capita gain in the consumption of alcohol in the United States has fallen during the last twelve years from seven and a fraction gallons to two and a fraction.

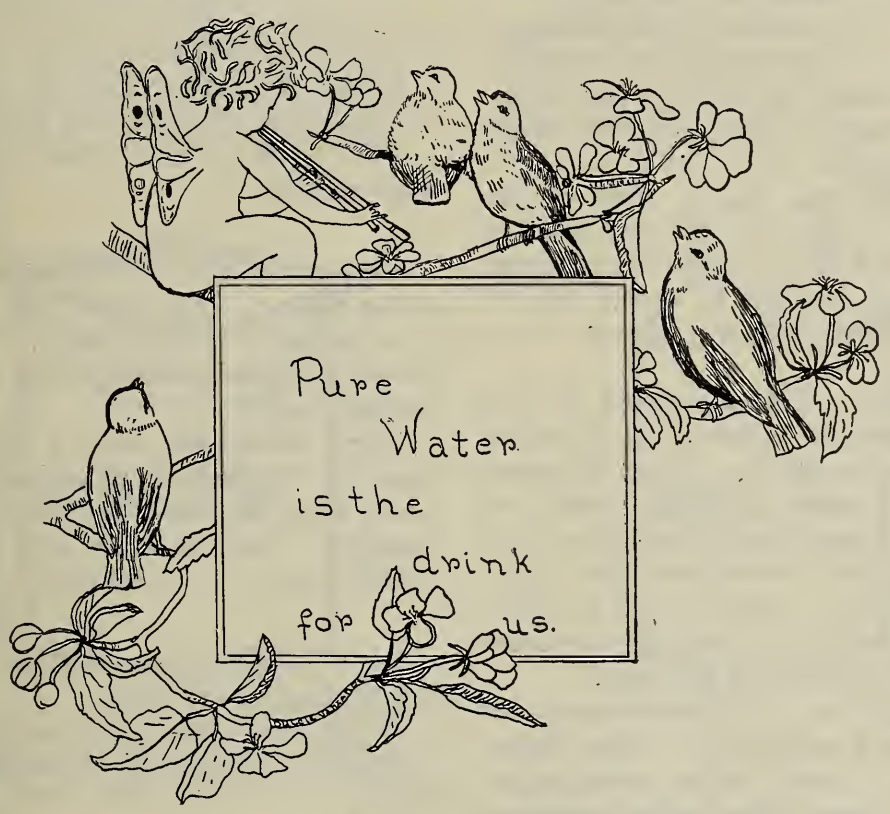
From the temperance physiology lessons which the children of the foreign-born get in our public schools, they are learning and telling their parents that alcohol is their worst enemy.

To my question, what proportion of the people in the dining car order liquors, the conductors on an average reply, "Out of fifty people served meals in the diner not more than seven order alcoholic drinks," not quite one seventh of the whole, and that number is not increasing, except in the case of evening trains that take business men home.

The false notion promulgated by the Committee of Fifty, that drinking with the evening meal is a safe habit, calls for a leaflet containing the latest truths of science on that point to be put into the hands of all business men.

RESULTS AT ST. LOUIS

At the Columbian Exposition in 1893, in response to tremendous effort and appeal some exhibits of school work in temperance physiology from a few states were secured. Eleven years later, in 1904, at the St. Louis Exposition, with no effort made to secure it, fine specimens of work in temperance physiology from all grades were shown by most of the states as a part of their regular school exhibit.



These scientific temperance instruction exhibits at St. Louis not only show the progress of this nation in intelligent sobriety but have inspired other peoples, representatives sent from Sweden, Germany, France, and other countries, to learn how the temperance physiology that has helped to make the American a nerve-man is taught in our public schools.

STATE REPORTS

The reports that come in from the different states for 1904, are as a whole most encouraging. They show not only progress but a grasp of the vital idea that the majority of the future voters of our land whom we wish to educate to close the saloon are in the first five years of the public schools, and hence the supreme importance of having this study in each of those grades as well as in later years, with text-books adapted to grade in the hands of all pupils who have books in other subjects.

The only state that reports the sentiment on this subject as "passive" is one where, failing to secure the weakening of the law, a Committee of Twelve for four years have been trying to make out a course of instruction that would take the study as a regular branch from the fifth year and text-books from fourth year pupils who have books in other snbjects.

THE NEXT STEP

During the last fifteen months your national superintendent has visited and spoken in nearly all the northern and some of the southern states, noting over this wide area the amount of temperance sentiment as compared with that of a dozen years ago when last in those states. The progress seen is not only most encouraging but warrants the conclusion that the hour is ripe for concentrating this anti-alcohol sentiment on the question, license or no license, in states where that question is submitted to the people.

Hence, I hope that the line of work designated as the Voters' Information Bureau will be adopted by this convention. It will be a fitting sequel to the educational work that was inaugurated twenty-five years ago. The National Bureau of Scientific Temperance Investigation is constant lygathering the information that should be given to every voter, as it has been and is being given to every public school pupil in this land. Twenty-five years ago there was no SCHOOL PHYSIOLOGY JOURNAL as there is today to show the teacher how to teach this subject. Send it now to the teachers in your community.

Twenty-five years more, and perhaps less, of faithful work on our part and on that of those who come after us, and there will be no legalized brewery, distillery or saloon in all this fair land. They will have perished before the blazing light of God's truth, truth that is sure to win, dethroning this enslavor of the human race.

From the Annual Report of the Department of Scientific Temperance Instruction, delivered before the National Convention of the Woman's Christian Temperance Union, held in Philadelphia, Pa., Nov. 29,-Dec. 4, 1904

Primary Lessons

FIRST TO THIRD YEARS

ST. LOUIS EXPOSITION PAPERS

EXPOSITIONS are indeed the timekeepers of progress. Never were these words of the late president McKinley more strikingly exemplified than in the exhibit of scientific temperance papers at St. Louis.

It is safe to say that at the time of the Chicago World's Fair not one primary child in a thousand had such clear ideas of the reasons for temperance and hygiene as every child of the same age, whose work was shown at St. Louis, now has.

The papers which follow are based on oral work in the classroom, followed by dictation exercises given by the teacher. They represent what the children know and what they are carrying home to parents and playmates. We suggest that teachers everywhere use these exercises as reviews or original work for their own classes, amplifying or changing the order of topics as may seem best in any case.

Tell your pupils that children all over the United States are learning these same truths, how to take care of their bodies, what to eat and drink, how to keep clean, and why tobacco and all drinks which have alcohol in them are never to be touched.

Reproduce the drawings during the regular periods for such work, letting the children copy also the mottoes referring to each.

In the hands of the skillful teacher work of this kind will be educative and inspiring, leading to greater results in the future.

(1)

FIRST YEAR

We get food from animals, plants, and minerals. We must have pure air, pure water and proper food.

Children should not take a meal when they are heated by play. Of all drinks pure water is the best.

Alcoholic drinks can not quench thirst. They make thirst. Pat K.

We should take good care of our bodies. They are like machines.

We should take care of our teeth and skin.

Tobacco is not good for boys.

Alcohol is poison. It makes good men bad.

Sylvesta M.

Alcohol is a poison, and takes away the senses of people who use it.

It looks like water, but has a hot, burning taste.

It burns the mouth, throat and stomach like fire.

The Indians call it "fire-water."

If we want to be well and strong we must never use it.

Margaret H.

Alcohol is a poison.

It is dangerous to drink it.

It makes people drunk and crazy.

It shortens their life and ruins their health.

I am never going to drink anything that contains alcohol.

Robert D.

God made little children as sweet and pretty as the flowers. But some little boys soil their nice bodies by using tobacco. It makes their breath smell bad, and it keeps the brain from working right.

Then, sometimes, when a boy gets to be a man, he begins to drink whiskey. His eyes become weak, his brain dull, and he can not walk straight. Then his nose gets red, and everybody knows he is a drunkard.

Gertrude G.

We should not take anything into the stomach that will do it harm.

Of all drinks pure water is the best.

Muscles and nerves are stronger without alcohol.

Tobacco harms the nerves and muscles.

Alcohol and tobacco poison the blood and injure the bones.

Edwin B.

(2)

SECOND YEAR

Alcohol is a poison. It is a liquid and is as clear as water.

If you drink anything with alcohol in it, it will injure your brain.

When you drink it, first it injures the mouth, then the throat, and then the stomach.

After that the blood takes the poison all over the body. It injures the brain and turns the muscles into fat.

So we must not take any whiskey at all if we want to be strong.

Evert R.

Tobacco has a poison in it called nicotine. This poison makes tobacco bad for us to chew or smoke.

Cigarettes have nicotine in them, and when boys smoke cigarettes, this poison makes their bones so they can't grow. It *injures* the brain so they can't think so well, and they are not as good in school.

So if we boys want to be strong, tall and smart we must not chew or smoke.

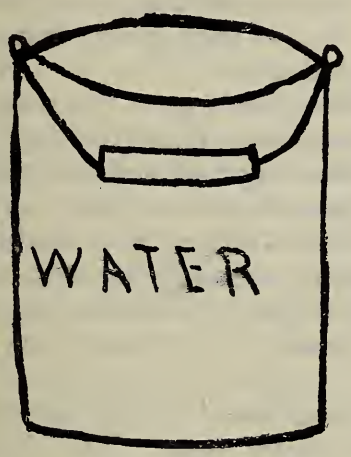
Gay W.

You must keep clean or the dirt will get in the pores and it can not let the sweat out. You must eat slowly or you might get some food down your windpipe.

You must eat your food with your fork. Water and milk are healthful drinks.

You must not talk loud in any one's ear. And you must not read where the light shines in your face. You must clean your teeth before breakfast, and before going to bed at night.

You must not drink whiskey, one half of it is alcohol. It will burn the stomach and make the nerves so they can not carry orders. A man who smokes tobacco will say that a pipe full rests him because it puts his nerves to sleep and does not carry the tired feeling to the brain and does not make him feel tired.



"These are the best drinks for children."

There is a tube that goes to the windpipe; you breathe through it.

Charlie D.

Alcohol deadens the nerves and does harm to all parts of the body.

If you go in the prison and ask the prisoners what brought them there, most of them will say "It was drink."

Once an old man said a smoke of tobacco rested him, but it only put his nerves to sleep.

You may think that when you drink liquor it will not hurt you, but it will do great harm.

Your stomach is like a kitchen, and when the cook drinks liquor the dinner will be spoiled.

When a man drinks liquor he staggers and reels *because* the nerves can not do their work well.

We must keep the body clean, else the dirt will get in the little pores and stop them up.

We need nourishing food to keep the body alive and in good working order.

We need a fork to eat with, and a knife with which to cut our meat.

The most *healthful* drinks are milk and water.

Do not read with a bright light or a dim light.

Do not pick your ear with a pin.

Brush your teeth before you eat and after you eat.

Mary F.

Alcohol looks like water but is very different. Water poured on a plant will make it grow; alcohol will kill it. Water will not burn, alcohol will. A fish lives all its life in water, but will die at once in alcohol. Water softens our food and helps it to digest.

Alcohol hardens many kinds of food. Water cools and refreshes the body, outside and inside. Alcohol inflames and irritates it. Water quenches and alcohol makes thirst. The more one drinks the more one wants.

Every part of our body needs water; and no part of the body needs alcohol.

Edgar G.

Keep the whole skin very clean.

Breathe pure air and eat wholesome food.

Alcohol and tobacco poison the blood and injure the bones.

Of all drinks pure water is the best, for any drinks containing alcohol can not satisfy us when thirsty.

It is our duty to become strong and healthy so that we may be useful and happy in the world.

George D.

(3)

THIRD YEAR

The best drinks for children are milk and water. We should not drink tea or coffee, because it makes us nervous and we have the headache. Three-fourths of our bodies are water.

Children should go to bed early and get up early because it makes them healthy. If we went to bed late it would make us stupid and would make us have dark rings under our eyes.

We need food because it helps build up our bodies and keep them in good condition. Every day the body wears away and it needs food to strengthen it. When our shoe wears out we go *and* get it patched. We do not *always* get them patched. We get new ones but we *can't* get new bodies, so it is best to keep them in good health.

We should wash and clean *ourselves* up, and comb our hair and brush our clothes before we come to school. If we were not clean, the teacher would send us home and tell us to clean *ourselves* up and then come back.

Cecil R.

Many a man who is a drunkard got the liking for the drinks that have ruined him by drinking cider.

The alcohol in the cider made him want more alcohol.

After a while he craved other drinks which were still stronger of alcohol than cider is.

The more of these he drank the more he wanted, and the worse his condition became.

It is the nature of alcohol to make drunkards.

Besides injuring the health, cider and other liquors often make their drinkers cross.

Marguerite W.

Alcohol is made of apple juice and other things and is often made into medicines.

Men sometimes want to taste it. Then they want more and more until they get to be drunkards, and then it poisons their blood and kills them.

They coax other men to drink.

Men die all the time from drinking alcohol.

The government *ought* to make it a law not to have saloons.

Charles B.

Alcohol and tobacco are poisons. They injure every part of the body.

Nicotine is very poisonous. This is put in tobacco to make those who use it want more. Nicotine is also put on cigarette papers.

Alcohol is very injurious to the muscles. It makes them weak and flabby and they can not do their work. So it must injure the heart in the same way, for the heart is a muscle.

It also injures the nerves, making them weak and unsteady, so that those who use it have not a good, strong nervous system.

Alcohol deadens our senses and brain. It causes weakness of both our body and brain.

Marie N.

Beer is made of rye, barley, hops and yeast. The grains are mostly composed of starch. The starch turns to sugar. It has to be kept warm and moist to be changed to sugar. You know it is changed, when it begins to sprout.

It is then ground and soaked in water. The sugar is changed to alcohol by adding hops and yeast. It is now called malted liquor. It is a sweet drink now. The hops give it a bitter taste, the yeast ferments it.

I don't want to drink it, because it destroys both mind and body. You will never be as strong, or as well, as if you had left it alone. It makes sorrow and brings shame to the mothers and children.

You don't like beer very much when you first take it, then the best thing to do is to leave it alone. You might do any thing when you are drunk. If you once take it, you may want it all the time. Sometimes you will buy a glass of beer and leave your children hungry. If you are a drunkard you will do anything to get money to buy drink, you will even murder and steal, and then be put behind the bars, or be hung, or go to the penitentiary.

Artie L.

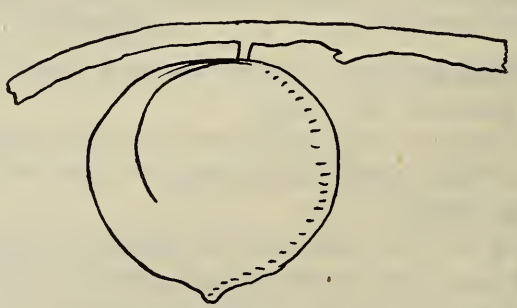
Milk and water are the best drinks for children. Tea and coffee injure children and grown people too, as they make them nervous and cause headache.

Children should go to bed early, because they need more sleep than grown-up people. Children who study hard and play hard should have all the sleep they can take, so they can keep the brain and nerves from wearing out.

Cigarettes are very harmful, as the tobacco and the paper from which they are made contain a poison which injures the boys who use them.

We need food to build up our bodies faster than they wear away. The blood carries material to repair the different parts of our bodies, and this material is taken from the food we eat.

Buenta H.



"Peaches are good to eat."
"Brandy made from peaches is a bad drink."

Lord, grant us eyes to see
Within the seed a tree,
Within the glowing egg a bird,
Within the shroud a butterfly.

—*Christina Rossetti.*

Grammar Work

FOURTH TO EIGHTH YEARS

RESULTS FROM TEXT-BOOK INSTRUCTION

AS SEEN AT THE ST. LOUIS EXPOSITION

NO other one factor has been more potent in popularizing the study of scientific temperance and in securing the present gratifying results than the almost universal use, in grades above the primary, of well-graded books as one source of information.

When the first law on the subject was passed, in 1882, there was not a text-book in the world suitable for carrying out its provisions. Neither teacher nor pupil had anything to work with. Ten years later, 23 indorsed books were on the market, issued by 7 different firms. Today, this list has grown to 36 physiologies, published by 9 firms, admirably adapted to grade, and telling in fascinating style the story of the fashioning of the human body, its needs, and how it should be cared for to insure the highest degree of perfection.

The imitations of these books which crowd the market are the best evidence that their value is appreciated. But even unrevised and unindorsed books are improving. Few books in America today teach moderate drinking, as was almost universal at first. The standard has been steadily forced up and the children and the public generally are reaping the benefit.

Every paper reproduced below is confirmatory proof of the advantage of books in the hands of pupils able to use them intelligently. If this is true of work under the guidance of the skillful teacher, it is vastly more so in the case of the many teachers who must direct the work when wholly unprepared to do it justice. To all such teachers books are a necessary means of information and a safeguard against inaccuracy and exaggeration.

So far as pupils are concerned, books educate the eye as oral instruction educates the ear. Both methods are necessary to the best results. Moreover, the use of books encourages independent work. The pupil by their use finds that he must depend upon himself, instead of looking to the teacher for everything he needs to know, one of the most valuable lessons he can learn from his school course.

The ideal text-book in physiology, as in other studies, may never be written, but every year brings such books nearer. Those now indorsed by this department are in the very front rank with books on other subjects which have been successfully taught from time immemorial, and the future promises equally well.

FOURTH YEAR

Alcohol is a clear liquid and has a sharp taste. It is very poisonous.

Hard cider, beer, ale, wine, brandy, whiskey are all alcoholic drinks, for they each contain alcohol which is produced by fermentation, or by the sugar in fruits and grain decomposing.

Alcohol has the effect of making a craving for more alcohol, and this is what makes drunkards. This is the reason a boy should never take his first drink, and then he will not care for more.

Tobacco usually makes a boy sick when he first uses it, but after a time he gets to like it and it may be as harmful to him as alcohol.

Mary C.

The Lord gave us our bodies to take care of. We should not eat too much. We should eat wholesome food. We must chew our food well. The teeth should be kept clean. Grapes and apples are healthful food when they are gathered, but when the juice is squeezed out and the juice ferments it is not good for us.

Living rooms and sleeping rooms should be aired, because they are not healthy after any person has slept in them. We should take regular exercise in the fresh air, to have strong muscles.

If a person uses tobacco his mind is not right. We should bathe at least once a week. Strong drink is not good for anybody.

Leslie Y.

Alcohol does great harm to the muscles. It is like a poison mixed in the blood and carried to every part of the body.

Sometimes it paralyzes the muscles so that they can not act, and it causes fat which is not good to form on the muscles, and makes a drunkard's body fat and clumsy. The paralysis is what makes a man weak and tottering when he is intoxicated.

If we want to be strong, we must eat good nourishing food, and not such things as burn and harm our bodies.

Tobacco will dwarf young persons, and also makes the muscles weak; it is almost as bad as drinking alcoholic drinks. Jean McG.

Alcohol is a fiery stimulant.

Nobody drinks clear alcohol.

The strongest drinks are about one-half alcohol.

No stimulant is so enticing as alcohol, it is very easy to get into the habit of using it.

Drinking often causes dyspepsia.

Delirium tremens is one of the results of alcohol.

Wine, beer, cider, brandy, rum, ale, whiskey, and gin are all alcoholic drinks.

Alcohol looks like water, but it burns the mouth like fire.

A drunkard will give up everything for liquor.

Alcohol often injures the heart and blood-vessels.

Men who drink a great deal may look large and strong when they are really weak.

Their muscles are not hard but soft and fat.

Some men are foolish enough to drink whiskey when it is hot to make them cool, and when it is cold they drink it to make them hot.

Men and boys who smoke cigarettes have yellow finger nails.

Bennie B.

"Whenever I see on bush or tree,
A great big spider web,
say with a shout, little fly, look out!
That web seems so pretty and white,
But a spider hides there, and he's ready to bite.

"So if any one here drinks cider or beer,
I say to him now, with my very best bow,
Have a care of that lager or cider,
For there hides a wicked old spider,
And it fills him with joy to catch man or boy
And weave all about him with terrible might
The meshes of habit—the rum appetite."

If the body was made only of soft parts it would not keep in shape. It is the bony framework that gives such a firm support to the body.

It is not what we eat, but what we digest that gives us health and strength. Do not eat between meals. Do not eat in a hurry. Do not drink ice water with your meals. Do not eat or drink anything that has in it wine or any form of alcohol.

The teeth should be cleaned at least once a day. You should not pick them with any hard substance, as a pin.

The difference between the juice that is pressed from apples and grapes at the mill and that which you press out from the fruit by your own teeth is there is no alcohol in the juice when you eat the fruit, but there may be alcohol in the juice you get from the mill. After the fruit juice has been pressed out and left exposed to the warm air for a few hours it begins to ferment.

Some people think it is only necessary to have fresh air in the day time and pay no attention to their sleeping rooms. But breathing goes on at night just as well as during the day. Our sleeping rooms should have a constant supply of fresh air.

Good, wholesome food and exercise in the open air will make strong muscle. Drinks containing alcohol will cause the muscles to turn to fat, which is a sign of weakness.

Through the sense of sight we know the color, size, and shape of objects. Through the sense of smell we enjoy many pleasures. It also tells us to keep away from harmful things.

The sense of taste enables us to enjoy many kinds of food.

The sense of touch is found in the skin all over the body. The blind have this sense highly trained.

Through the sense of hearing people get much enjoyment in this life.

Every one should take a cold bath in the morning, also two warm baths a week.

Katie D.

FIFTH YEAR

The best foods for children are bread, rice, lean meat, cereals, vegetables and all kinds of ripe fruit.

Beer is a harmful drink because alcohol is in it, and the longer you keep the beer the more alcohol comes in it. When you put yeast into bread and it begins to bake, the alcohol escapes.

The principal organs of digestion are the mouth, teeth, esophagus, stomach, and intestines.

The two uses of the blood are the repairs of the body and also life and strength.

The blood is purified in the lungs.

You can develop your lungs by taking deep breaths and outdoor exercise.

Tobacco has a poison in it, and sometimes it gets into a blood-vessel which carries it all over the body.

Outdoor exercise helps to make good blood,

because we take oxygen into our lungs, and makes the blood purified.

If you never had any nerves you might put your hand on a hot stove and burn it to a cinder.

John H.

Alcohol is a liquid that looks like water, but it is very different from water because it is a poison.

It is made from fruit and grain.

There are different kinds of drink containing alcohol. Wine is made from grapes. The grapes are put in great tanks called vats, and there the juice is squeezed out of them. Then it begins to bubble.

The sugar in the grapes turns to alcohol and gas, and the juice becomes sour. Another form of drink containing alcohol is cider, which is made from the juice of apples. It contains but very little alcohol, but enough to harm the body and mind.

Beer is made from barley, and the starch in the grain is turned to alcohol. They sometimes put hops in beer to make it sour and bitter. Whiskey, brandy, rum and gin are other alcoholic drinks which contain about one half alcohol. Alcohol makes the mind as well as the body very weak. About fourteen per cent of the people insane go insane because they have used alcoholic drinks. If a man should drink two mugs of beer a day for a year, it would cost thirty-six dollars and a half.

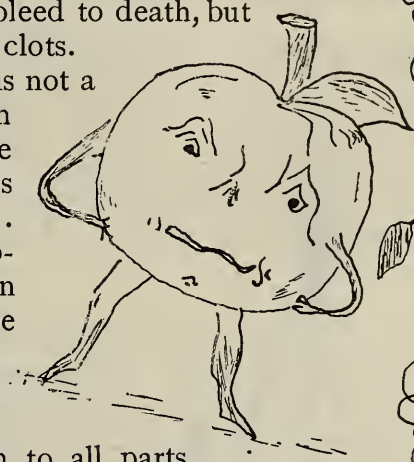
Deda C.

A proper drink is such as will supply the demand for water without introducing any hurtful substances. The universal drink is water.

This seems to be the natural drink. Water quenches thirst.

Some people think that beer and whiskey and cider are good drinks and will make them strong but they do not, but make the blood impure and injure the muscles.

The blood is the nutritive fluid of the body. It contains a clear fluid called plasma. If it was not for the plasma any one who was cut would bleed to death, but the plasma clots.



Alcohol is not a food. It can not increase any one's strength. When alcohol is taken into the body it mixes with the blood and is taken to all parts of the body. The red corpuscles are to carry oxygen, and when alcohol is taken into the body the red corpuscles become smaller and are shrunken and can not carry as much oxygen.

Tobacco ontains a deadly poison called nicotine. Two drops will kill a dog or any other small animal. Tobacco interferes with nourishing qualities of the blood and prevents the proper growth and development of the body. Cigarettes are more injurious than any other form of tobacco.

If we take alcohol or any other narcotic frequently and regularly the system soon needs it.

The use of alcohol grows in this way to be a powerful habit.

Kitty W.

Hard cider, beer, ale, wine, rum, whiskey and brandy contain alcohol. All kinds of alcoholic drinks are harmful.

The bones receive nourishment from the blood. Alcohol weakens the nourishing power of the blood, then it injures the bones.

Tobacco also has a harmful effect upon the nourishment of the bones, and when the proper nourishment is not given it stunts the growth of the bones. Boys who use tobacco can not expect to be as smart men as they might be if they never touched it.

Frank Mc.

School Physiology Journal

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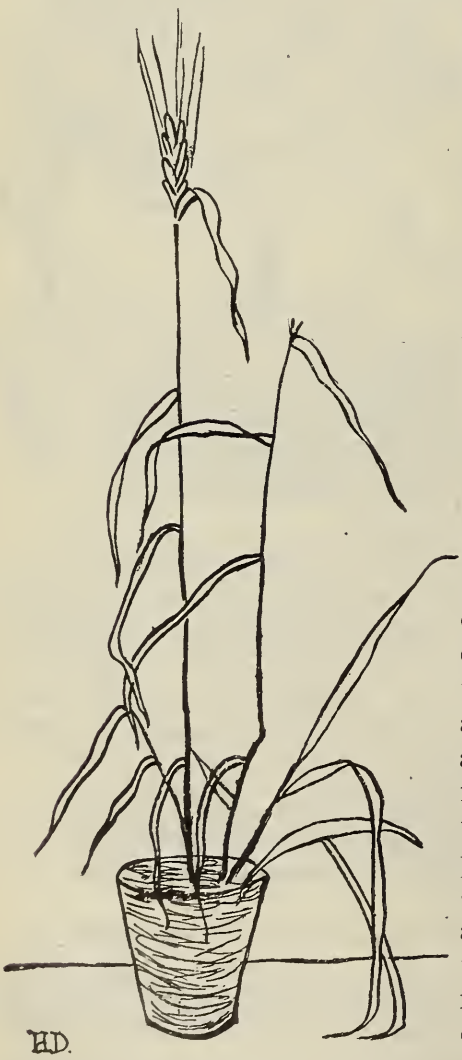
TWO GREAT EXPOSITIONS

THEIR SHOWING IN SCIENTIFIC TEMPERANCE



AT the Columbian Exposition, in 1893, one of the noteworthy exhibits in the educational department was that of scientific temperance instruction in the public schools. Teachers, school officials and parents studied the exhibit, and went away with a new conception of the possibilities of the subject and of what it was doing for the children of the country.

Government officials from almost every civilized nation represented at the Exposition made a careful study of our educational method for the prevention of intemperance, and sent home copies of our temperance education laws and specimens of our text-books and methods of instruction. Influences were thus set in motion that ever since have constantly made themselves felt, throughout other lands as well as our own.

Eleven years have passed since the Chicago Exposition. Instead of the 38 states and 4 territories then having temperance education laws, our entire nation is now under such laws. Then about 13,000,000 children of school age were under these laws; now there are about 22,000,000. The school literature has increased, new methods of study have been evolved, and the subject has passed far beyond the mere experimental stage to one in which we can already see results, while among foreign nations also there has been progress toward adopting the educational plan for dealing with intemperance.

Another great World Exposition is just closing at St. Louis, and in view of the development of temperance education it is fitting that this great feature of our educational system should be as strikingly shown as was in reality the case.

Every section of the country was represented by the children's own work, both in the special exhibit of this department and in connection with the other school work shown by each state. No one can study the papers shown in all grades, from the first primary through the first year of the high school, without realizing that education is indeed the remedy of the future for the ills of intemperance. The truth concerning the nature and harmful effects of alcoholic drinks and other narcotics is out, and it is reaching the children. Their knowledge is crudely expressed in many cases, it is true, but it is plainly to be seen that they know more of this subject, to say nothing of that of general hygiene and right living, than did the majority of grown people twenty-five years ago.

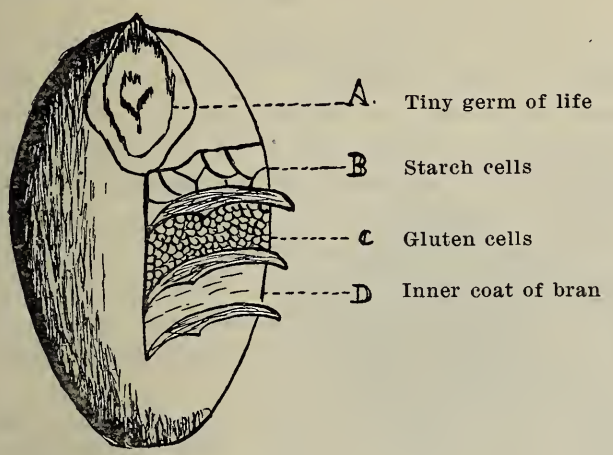
In some cases questions and topics suggested by this department were used; in other instances teachers substituted their own plans, or exhibited specimens of the regular, every day work of pupils. Results are most encouraging whichever course was followed, and this is but a beginning. When children thus instructed shall become the majority of our voting citizens, the temperance question will be solved and stay solved as long as the teaching remains a vital part of the school curriculum, educating rightly coming majorities.

It is cause for regret that from the thousands of excellent papers submitted but few can be reproduced in our columns. Almost without exception the papers were models of neatness, and clear, beautiful handwriting. Many were charmingly illustrated, as can be seen from the drawings shown in this issue of the JOURNAL. The few instances of misspelled words have been corrected, but all such words are printed in italics. In other respects the papers appear exactly as exhibited, except where they have been necessarily shortened.

THE BIOGRAPHY OF A KERNEL OF WHEAT

SIXTH YEAR

I am a little yellow kernel of wheat. On one of my sides is a dent. At one end of this dent is a little white spot. I am shaped like an ovoid. One day early in the spring, the kernel from which I grew and some more of my comrades were put into the ground in a large field in Minnesota. It was before Jack Frost was gone.



The soil they were put in was plowed in the fall. First a man put a great many of us in a seed box in a large machine drawn by horses. This machine was a seeder. He sat on this machine while the seeds were sown evenly on the plowed and harrowed soil.

After a few days the sunlight, moisture and warmth gave us a great deal of strength, and each sent a little spire of green above the ground and some roots below at the same time.

They grew from April to August. During that time they endured frost, hail, wind, a great deal of heat, sometimes not enough and sometimes too much moisture. But these things did not prevent my perfect development. At many times my young body was attacked by insects, the weevil, the chinch bug, mildew, smut and other forms of fungi. In sptie of all this the sun and soil of Minnesota ripened me and I belonged to a finely developed plant.

In August, my comrades and I were cut down and bound together in sheaves. We were then threshed by a steam power machine. After this I was put into a grain elevator at Minneapolis. From there I was put upon a freight car and went by way of Chicago and New York to New Haven. There I was put into another grain elevator. Here I was until a boy found me and took me to C. St. school. There I was planted March 18, 1904. Today, June 2, 1904, I am a complete plant ready to grow new kernels.

My picture is on this page.

Amy M.

THE GERMINATION OF A KERNEL OF WHEAT

A kernel of wheat contains a tiny germ of life, a fine white powder, a gluey substance, and a strong skin. The tiny germ of life is resting, and will not awaken unless it has sunlight, heat and moisture.

Somewhere on the kernel of wheat there is a place where the skin is thinner than the rest of it. When the kernel is put into water, this thin place allows the water to pass through it. Inside the kernel is a little grape-sugar. When the water gets into the kernel, it will dissolve the sugar, and become a sweetened liquid.

When the water reaches the starch, the skin begins to burst. When the skin is burst, the oxygen of the air gets into the kernel and begins to decay the gluten. Then the result is decayed gluten.

But the decayed gluten is a ferment. So there begins a fermentation in the kernel. As soon as this ferment gets into the starch it changes it into sugar. When this is changed, the tiny germ of life begins to sprout and sends a root down to the earth and a leaf up to the air.

Hattie F.

HOW STARCH IS OBTAINED FROM WHEAT FLOUR

This afternoon we experimented in order to find out how to make starch from wheat flour.

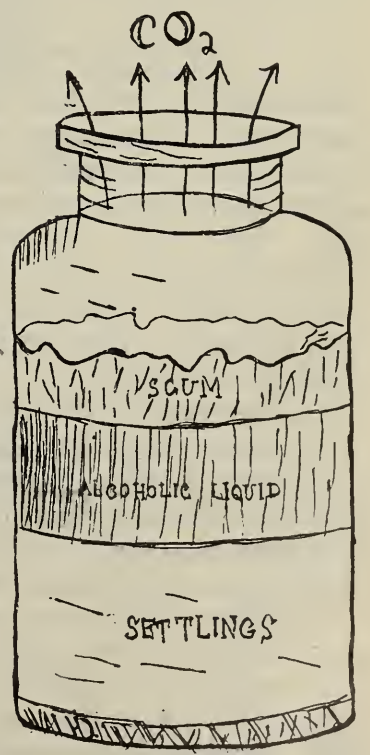
First a large glass vessel was placed upon the table and a cloth was stretched tightly over and around the mouth of this vessel.

Next some wheat flour was placed upon the stretched cloth. Water was then poured over the flour, and the water and flour were stirred until the water and all of the flour that would had passed through the cloth.

That which remained on the top of the cloth was of a creamish color and gluey. This substance is called gluten.

After the liquid of milky appearance settled in the vessel, two things remained. These two things were a white powder and a clearer liquid. The white powder was starch. The clearer liquid was water.

Wheat flour must contain starch and gluten.



The wheat flour came from kernels of wheat. Starch and gluten must be in kernels of wheat.

E. L. D.

THE MAKING OF AN ALCOHOLIC LIQUID FROM GRAIN

Men can make alcohol by letting a sweet liquid stand and decay. No man can find any alcoholic liquid already made. Man can make an alcoholic liquid from kernels of wheat if he wishes to do so. A kernel of wheat contains no alcohol.

There is much starch in grain. By fermentation, starch can be changed into sugar.

The first thing to be done to the grain is to make it sprout. Then it is heated hot enough to kill the sprout. This sprouted grain is called malt. This malt is then mashed and flooded with water. This makes a sweetened liquid. This sweetened liquid is called wort.

Yeast is added to ferment this wort. This fermentation of the wort changes it to a fermented liquid containing alcohol. The fermentation breaks the sugar into alcohol and carbonic acid gas. The gas rises to the top as bubbles, and makes a filthy yellow scum.*

The alcoholic liquid contains much water and the alcohol and water must be separated. This separation is done by changing the alcoholic liquid to a vapor by heating it. This liquid is a distilled liquid and is largely alcohol. Therefore alcohol can be separated from a fermented liquor by distillation. The alcohol usually sold is distilled from fermented molasses.

The machinery for distillation is called a still. The building where this sort of work is done on a large scale is called a distillery.

Rose F.

FERMENTATION OF SUGAR

Molasses was put into this receiver. With this molasses some water was put. The water and molasses were made into a mixture. This mixture was really a mixture of cane sugar and water. Into this mixture some yeast was placed.

In the receiver there is now an alcoholic liquid and a gas. The gas is Co^2. In the liquid there is alcohol.

The presence of the yeast, a ferment, caused the fermentation of the sugar. The yeast, by its presence, made the sugar split up into its elements, carbon, hydrogen and oxygen.

The elements which had split apart now formed into alcohol and a gas.

A. M.

ALCOHOL

Alcohol is a poisonous liquid and can be easily lighted. It is colorless. It has a strong odor, and stinging taste. Alcohol is lighter than water, and looks very much like it. Pure alcohol can hardly be made. Much water gets in it. Alcohol is intoxicating.

When a man becomes intoxicated he does not know where he is, because his mind is affected. He talks poorly. He cuts his words short or misplaces them because his speech is changed by the alcohol.

Sophie R.

SEVENTH YEAR

SHALL I SMOKE

Here is a question which mostboys have to answer, "Shall I smoke?" It is not easily answered according to my reckoning. If a boy once begins to smoke it is hard for him to give it up. This is the same with persons who use morphine and opium.

The beginner after smoking feels the effect of the nicotine most keenly. Extreme nausea, prostration and vomiting follow, but if its use is still continued these acute symptoms disappear and slower effects appear.

It is true that tobacco has more effect on some than on others. As a rule the younger the person using tobacco, the more active will its effects be.

Tobacco is especially bad for boys. A boy who smokes or chews tobacco before he is twelve or fourteen years of age must expect to be short of stature, weak in muscle, and unfit for study.

After reading about tobacco I gave up the idea of smoking or chewing, and I would give this suggestion to boys who intend to smoke. Read about its effects on a healthy body and I think you will change your minds as I did.

Samuel A.

SHALL I SMOKE

Any boy who has common sense and who will stop for a moment and say to himself, "Shall I smoke?" will answer "No" for these simple reasons. Tobacco in any form hinders the growth, and injures the nerves and health.

The smoking of cigarettes forms the tobacco habit and may make any boy a slave to it. The cigarette habit does not help a boy in his work and may prevent him from getting a good position in business, for many reliable business establishments will not employ boys that smoke.

The following drugs and poisons are used in the manufacturing of cigarettes: arsenic, creosote, nicotine, opium and *saltpetre*, every one being harmful.

Cigarette smoking makes a boy dull and stupid and prevents his advance in school. Tobacco also creates a thirst which may lead to the drinking of alcoholic liquors.

*See illustration on page 61

Smoking is a habit that causes discomfort to others, and affects the eye, ear, nose, and also the heart.

The smoking of tobacco is expensive ; it costs more than boys can afford to have their health ruined.

I have seen boys ranging from ten to fifteen years smoke cigarettes. The result of their smoking is that they have black rings around their eyes, fingers stained from the nicotine, they are nervous, lazy, disagreeable, weak, and always out of employment.

Nathan G.

EIGHTH YEAR

THE SKIN

The skin is an elastic, flexible, and porous covering of the body. It is composed of two parts, the upper, the epidermis or scarf skin, and the lower, the corium or true skin.

The under layer contains muscular fibers, the blood-vessels from which most of the excretions sent out through the pores come, the nerves that extend into the papillæ, the oil glands that keep the hair oily, the sweat glands which secrete the waste matter, and the hair sacs that contain the roots of the hair.

The scarf or upper skin consists of cells. The upper cells are hard and flat and are constantly being rubbed off. The lower cells contain the jelly-like coloring matter which determines the color of the skin. The canals from the sweat glands and the hairs pass through this upper skin to the surface of the body.

The epidermis protects the delicate true skin. It also protects the nerves. Without it, if we exercise our sense of touch, it causes pain. It contains the pores through which half the excretions of the body are passed.

The skin may absorb liquid nourishment if it comes in contact with it.

To have a healthy skin four things are necessary :

To perspire freely at all times.

To keep the skin clean.

To wear clean clothing.

To breathe pure air and to live in the sunlight.

John S.

HOW SKIN DISEASES MAY BE PREVENTED

Proper care of the skin is one of the essentials for the obtaining and preserving of health. If the skin is not well cared for, diseases soon develop, which endanger life as well as health.

In order to have a healthy skin, frequent bathing is necessary. The many pores in the skin must be kept open in order to allow the sweat glands to pour forth on to the surface of the skin the impurities which they have collected. These can be kept open only by frequent baths.

Among the Indians skin diseases used to be prevalent, nearly always proving fatal. Whole tribes of the redskins have been wiped out by diseases resulting from closed pores. The Indians, in order to protect themselves from the cold, covered themselves from head to foot with bear's grease. This soon closed their pores, and brought on numerous fatal diseases, the most dreaded of which was small-pox.

Many people are today troubled with diseases of the skin. These come from numerous causes. Cheap underclothing is often dyed with a preparation containing lead. Such underclothing should never be worn without first thoroughly washing it.

The quantity of clothing worn (including both outer and under clothing) often influences the health of the skin. The quantity should be regulated according to the health, habits, and exposure of a person, and should be such as to keep the body comfortably warm.

To keep the skin from becoming filthy the clothing should be frequently changed and cleaned. A neglect to change or clean the clothing is often the cause of dangerous skin diseases and ailments that spread very rapidly.

Hair dyes frequently prove dangerous, because they often contain lead preparations.

The constant use of alcohol or tobacco is another source of serious diseases of the skin. The

skin depends upon the proper circulation of the blood for its nourishment. If this circulation is interfered with by alcohol, the blood soon loses its chief element of life, and becomes thick and discolored; and, if the skin should already happen to be infected, it would be made a thousand times worse by the use of the alcohol.

The use of tobacco causes the pores to become penetrated with the poisonous nicotine, and does not tend to make the skin any more attractive looking or cleaner.

David R.

BATHING

Many people who are living in the present generation know nothing of the necessity of bathing to keep in good health.

The sweat glands are constantly pouring their secretions on to the surface of the skin; vast numbers of oil glands are depositing an oily substance on to the surface of it. The skin is constantly shedding its scaly cover. These facts show that baths must be taken, in order that the sweat glands may not be clogged up.

Now, many people complain that they haven't the means of taking baths. This is not true. A sponge bath every day, with a vigorous rubbing following it, will keep any one clean and healthy, providing a warm bath is taken at least once a week.

In ancient Rome any person, wishing to present the public with some building, would have a bathhouse erected to which the people could go and obtain a good bath, free, or for some slight cost.

Would it not be more beneficial to the people if some of our rich men would, instead of presenting a library, or the like, present a few bathing houses, such as were in existence in ancient Rome?

There is no doubt that if there were places in existence now, where people could go and get baths at a slight cost they would do so.

New Haven has recently built a public bath house which is very beneficial to the poorer class of people, and it is hoped that more of these will soon be erected. It is also hoped that in the schoolhouses erected in the future there will be baths which children may use.

Samuel R.

PHYSIOLOGY TOPICS FOR DECEMBER

PRIMARY—Position. Growth and Repair. Harm in Cigarettes. Wholesome Food and Drink. Exercise and Rest. How the Body is held upright.

INTERMEDIATE—Control of the Body: Brain and Nerves. The Body's Need of Exercise through Work, Play and Study. Rest and Sleep. The Circulatory System of the Body. The Muscular System.

ADVANCED—The Process of Digestion. The Nervous System.

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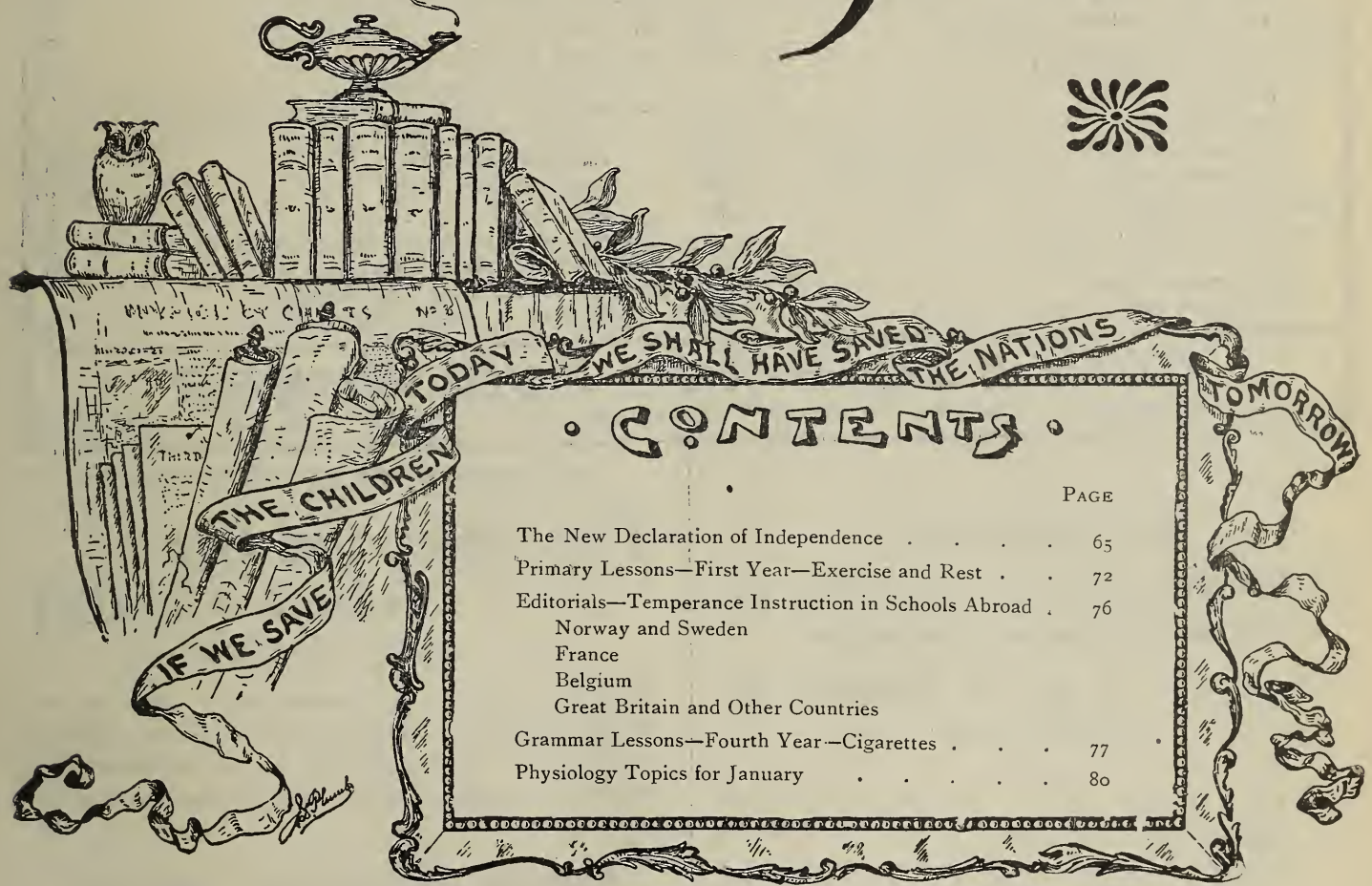

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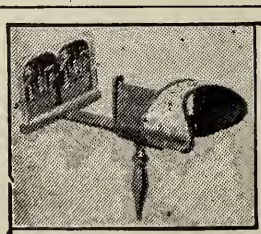

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School Physiology Journal

Vol. XIV *BOSTON, JANUARY, 1905* *No. 5*

COURAGE

"YET shrink not thou, whoe'er thou art,
For God's great purpose set apart,

"Before whose far-discerning eyes,
The future as the present lies!

"Beyond a narrow-bounded age
Stretches thy prophet-heritage.

"Thy audience, worlds!—all Time to be
The witness of the truth in thee!"

THE NEW DECLARATION OF INDEPENDENCE

DEMONSTRATION NIGHT AT PHILADELPHIA

WHOEVER would successfully plan for the overthrow of the drink curse in America must think in millions and at the same time must have capacity for detail.

Twenty-five years ago the alcohol problem, to my thinking, took this form. Science, through the investigations of Sir Benjamin Ward Richardson in England and Dr. N. S. Davis and others in our own country, had proved that alcohol instead of being, as people supposed, a harmless beverage if taken in moderate amounts, is in reality a narcotic brain poison that taken even moderately has the power to create an uncontrollable desire for more that destroys the mental, moral, and physical power of the drinker and impairs that of his children.

From these demonstrated facts it was not a far cry to the conclusion that the popular use of alcoholic drinks is a menace to a government like ours, the strength and perpetuity of which depend on the character of its people.

But how can a people who have a more or less tendency to the use of alcohol, as have the Anglo-Saxon and other races that make up the American nation, be prevented from drinking such liquors was the question.

A republic like ours has no power with which it can compel majorities, for majorities make the laws. As long as a majority of the people believe in alcohol they will drink it because they like it, and they will vote for its manufacture and sale.

TEACHING A NATION THROUGH ITS CHILDREN

Hence, the first step in saving this nation from the alcoholic destruction that has overtaken other nations was the gigantic undertaking of teaching the 50,000,000 people then in this country and those who should come later the dangerous character of alcohol and other narcotics and the physiological reasons for abstinence from their use, as well as the reasons for obeying other laws of health.

After Napoleon Bonaparte had despoiled Berlin, Queen Louise of Prussia said: "We must raise a new race of men, we must teach the children," and Germany's system of public education followed.

"A new race of men" through teaching the children is the hope in this conflict with alcohol, and if it is to save the nation, such teaching must reach, not a few in temperance societies, but all pupils in all schools.

It must be a progressive, systematic study, beginning with the first primary year and continuing through the grades to the end of the first year in the high school.

It must be a legally required study, ranking with geography and arithmetic.

An intelligent people who are not the slaves of alcohol, and who know the real character and force for evil of this poisonous narcotic, will not tolerate its manufacture and sale any more than they would that of any other vile thing that menaced the individual, the home, and the very life of the nation. The only instrumentality that can reach all the people and teach them betimes, before appetite for alcohol is formed, that the most moderate beverage use of alcoholic drinks is dangerous, and that human life and health are based on definite laws which must be obeyed, is the public schools.

Could the people be made to realize this fact and to demand that this be made a legally required study was the question that faced the national superintendent in 1882, when she entered upon the first campaign of effort to change the complexion of the map which the stereopticon now flashes on the canvas before you.*

TEMPERANCE EDUCATION LAWS DEMANDED BY THE PEOPLE

The saying of Abraham Lincoln, that "Whoever would secure the enactment of a law in this country must first write that law in the hearts of the people," was the keynote of the plans and operations which followed.

For twenty years the dear, faithful Christian Temperance Union women traversed thousands of miles over the hills and valleys of the land, in heat and cold, in storms and sunshine, explain-

*See first map on page 66

ing their errand and leaving literature, as they gathered the millions of signatures to petitions which were presented to the legislatures of the forty-five states and to the national Congress that had to be won over, one after another. Meanwhile, I was pleading with the people in public assemblies in the towns and cities, the homes of the law-makers of the different states in the land, pointing out the pending danger from alcohol as shown by modern science, pleading for the children and the land soon to be governed by them.

1882

TEMPERANCE EDUCATION MAP OF THE UNITED STATES AND TERRITORIES

States in Black have no Temperance Education Laws

With no people is the love of home, children, and country stronger than with the American. The old Roman exhortation, "See that the republic suffer no harm," came like a clarion call to foreign born as well as home born in all those audiences, impelling them to protect their own hearthstones from the ravages of alcohol, the greatest enemy of our times.

Next, came the pleading with the legislative committees and assemblies of the states and nation, and the shaping of bills to be enacted into laws that grew more specific as the years went by and showed weak places that needed to be fortified.

The charge of the Committee of Fifty that the movement to secure scientific temperance instruction in our public schools was purely autocratic is an absurdity. Never has every feature of a legal requirement been more thoroughly and deliberately wrought out before the people and by the people and their representatives in state and national legislatures than this.

THE MAP OF THE COUNTRY CHANGED

The question was twenty years before the country from the passage of the first temperance education law, in 1882, to the passage of the last law, in 1902, which changed the complexion of the temperance education map of this country to that which is now thrown upon the canvas.* The 22,000,000 children of school age in the United States are under these temperance education laws.

This map represents America's second Declaration of Independence. The American has always taken education seriously. The founders of this republic said that kings and emperors were not necessary. If the conscience and understanding are enlightened, men are capable of self-government. Then these founders, our fathers, built churches and school houses and launched this government of the people, depending for its perpetuity upon God's blessing on the work of the church, the home, and the school.

No student of the history of our nation as expressed in its government can fail to see that there has been growth in what we may call an enlightened public conscience since the days when our national constitution was so framed that human chattel slavery could be tolerated. While there is yet much left to be done before the millennium comes, the event has proved that the fathers were not afield in their dependence on the enlightened conscience.

And now, as science is showing that alcohol destroys capacity for self-government, the American of our times, like his forefathers, turns to education and says, "Our free public schools shall teach these facts concerning alcohol and other narcotics, as a part of physiology and hygiene, to all the people in the plastic period of childhood, when the human mind is as wax to receive and as granite to retain, and before an alcoholic appetite is awakened."

1902

TEMPERANCE EDUCATION MAP OF THE UNITED STATES AND TERRITORIES

States in White have Temperance Education Laws

FORMULATING A NEW SCIENCE

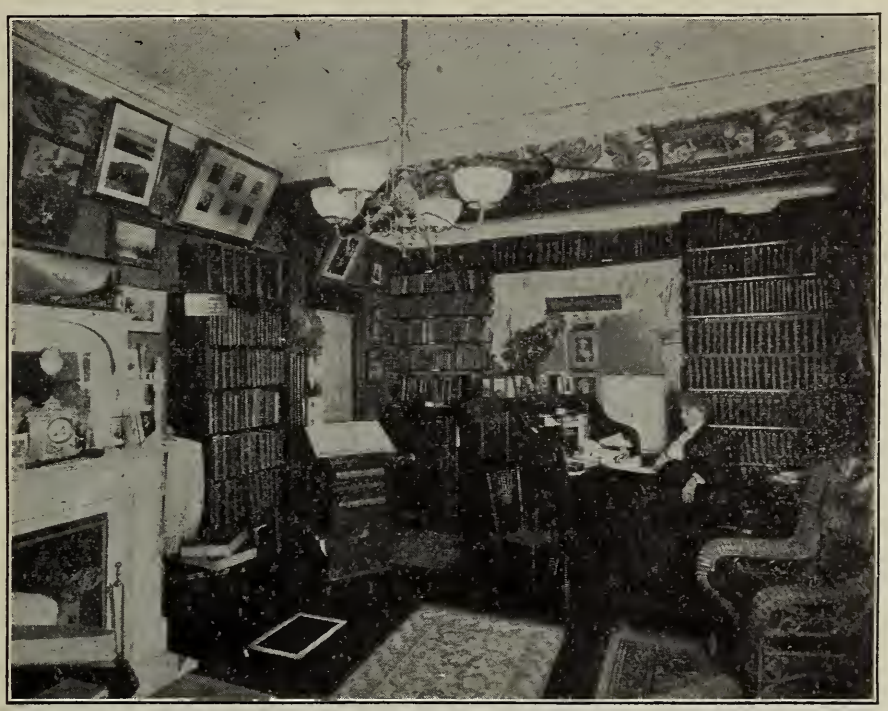
But securing laws requiring a new subject like this to be taught all pupils in all schools

*See second map on this page

was only one step. In order that the subject might be so taught that it would make an impression, somebody must gather the facts the children ought to know and put them into intelligible form in school manuals; and must make out courses of study adapting this subject matter to all grades of pupils. In other words, the temperance education laws when first enacted required a new science taught, the school literature of which was then unwritten.

This science is the physiological reasons for obeying the laws of health, including those relating to abstinence from alcoholic drinks and other narcotics.

The facts constituting this science are derived from many other sciences. Among these are anatomy, physiology, hygiene, chemistry, therapeutics, toxicology, bacteriology, pathology, pedagogy, and psychology including child study.



Mrs. Hunt in her Study

Twenty-five years ago no one had collected from their many sources the truths necessary to be taught as a guide in the formation of habits, or collated them in series of graded text-books adapted to the progressing capacities of the public school pupils of this country. Without such text-books this study would have failed. No teacher could roam over so vast a field to secure the matter for each lesson.

The national director of the Bureau of Scientific Temperance Investigation, whose study is here shown upon the canvas, did not write the temperance physiology text-books that millions of children are studying in our public schools, but she did collect for the authors truths that these books contain and prepare the courses of study that are now international.

But long before this, in the earliest stages of the work, before any temperance education laws had been enacted or any book written, she studied the problem at first hand. The Woman's Christian Temperance Unions made appointments for her to speak in nearly all the states. Entertained in the homes of the people, studying their institutions, society, visiting their places of education, of industry, as well as of penal reform, she was everywhere quietly trying to find what the fallacies were that led the people to begin to drink.

The nature of alcohol accounts for what follows such a beginning, but what the delusions are that lead the uninformed to enter the rapids was her question. Convinced from this study that there is not an excuse for beginning to drink which is sustained by modern science, she was ready for the periods of law and text-book making that followed. For twenty years, side by side with this legislative work, she has kept up an exhaustive study of the investigation concerning alcohol in the laboratories of the world, and of the findings of science in all languages on the subject of its nature and effects as a beverage.

AN ARSENAL OF TRUTH

The results of this investigation constitute the largest card catalog collection of truth on this subject in existence. Its value to the cause of total abstinence is incalculable. It constitutes an arsenal of truth ready for any emergency or attack upon the great fundamental truths, the basis of the temperance reform, that are being taught the children of America.

In the picture on page 74 is shown the Cabinet in which some of the results of these investigations, topically indexed, are on file.

From the first, the national superintendent of this department realized that this effort to teach the people why they should not use alcoholic drinks would not be a success, unless the reasons for such teaching were based on demonstrated truth. Hence, not a statement was allowed to stand in the indorsed physiologies that could not be defended by good authority at the time it was written. The indorsed physiologies have often been attacked by uninformed and belated critics, but have as often been successfully defended. These attacks and defenses have been and are a providential method for the promulgation of truth.

At the desk in the picture on page 69, surrounded by dictionaries, books and pamphlets galore, sits Mrs. Transeau who sixteen years ago began to help in the research work for this cause. In the corner near the window is her stenographer. She seems to be examining the "Index Medicus," a monthly publication which gives the titles of all articles, speeches, or books given to the public during the previous thirty days in any language on all topics in physiology, hygiene, alcohol, sanitation, etc., including reports of laboratory work. Whatever appears from this or other sources is immediately secured, imported when necessary, translated, and carefully indexed.

When the national superintendent wishes to know the latest testimony of science on any of these topics, a bell rings in this room and this helper brings to her the testimony and evidence on all sides of the question up to date. Thus the cause of temperance education is kept abreast with the march of progress.

THE CORRESPONDENCE ROOM

There are more than 200,000 Christian Temperance Union women in this land. Looking after the enforcement of the temperance education law in the schools, each in her own community, is a part of the work of these earnest women. Not every one of them writes the national superintendent every day, but every day letters come from women in many states who want information of some kind.

One is going before the school board in her town or city with a petition for the adoption of indorsed text-books in temperance physiology adapted to grade for pupils' use.

Another writes, "The children complain that the study is too hard." She must be told that the trouble is that books too advanced for grade are being put into the hands of these children, which is wholly unnecessary because courses of study, beautifully adapted to grade, have been prepared in this subject, showing just what topics pupils in each school year can understand and need to know, and what they will be interested in; also that text-books in considerable variety are all ready for each grade. Samples of these books must be sent this woman and other helps to meet her needs.

A third writes that she is to go before the teachers' institute in her county where the teachers have been influenced by the Committee of Fifty or by Professor Atwater. She must be informed as to the facts in the case and given helpful suggestions. Still another wants to know how to meet this or that objection. In addition, there is continued correspondence with state, county and local superintendents.

There are 22,000,000 American children of school age under temperance education laws. Not every one of them writes to the national superintendent every day, but letters often come from boys and girls saying they are to write compositions or essays on some phase of the alcohol question and want information. These letters must be answered, for among them may be the future Abraham Lincoln who will write the final emancipation proclamation of *no saloons in America.*

There are 450,000 public school teachers in our country who are under legal obligation to teach the physiological reasons for obeying the laws of health, including those relating to abstinence from alcoholic drinks and other narcotics. Frequent letters come from many of these asking about the various phases of this subject that they meet in daily school work.

Ministers write, "I am to preach on the temperance question. Can you send me the latest scientific and educational facts?" Doctors write, "I am to read a paper before a medical society on the question, Are the school temperance physiologies accurate? Can you help me to incontrovertible testimony?"

These are only a few samples of the questions that are daily answered with the mechanical help of the typewriters in this room. More than 10,000 letters a year and material for 2,000,000 pages of original temperance literature go from this room to all parts of our own and other lands. These letters and accompanying literature are helping to make Americans what the English call us, "a nation of water drinkers."

The national superintendent, when at home, reads all the incoming mail, dictates and gives general directions for answering the same. Important letters that must have her personal attention are forwarded or await her return from the lecture trips to teachers' institutes which each year are taking more and more of her time.

Three secretaries are constantly at work in this room. A fourth is needed to keep all letters answered and to meet the general demands of the work. These secretaries, Miss Stoddard, Miss Gurney, and Miss Grant, are trained workers who have served the cause of scientific temperance instruction in this capacity for many years.

THE SCHOOL PHYSIOLOGY JOURNAL

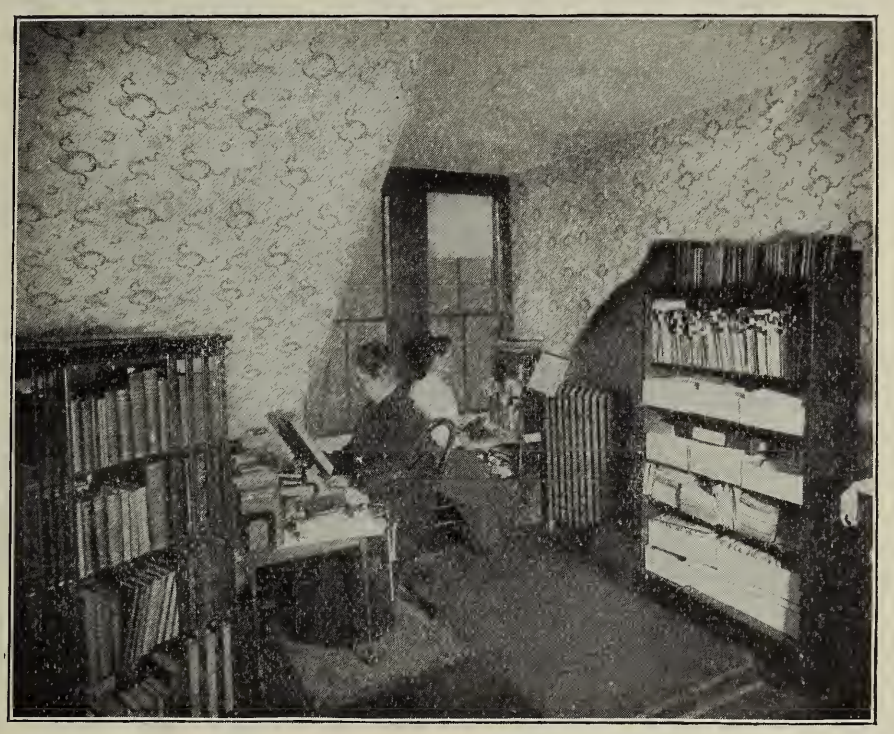
For more than two hundred years the question of how to teach the three R's has been debated in educational journals and in schools and gatherings for the information of teachers. But temperance physiology is a new branch in our public schools. The average normal school or institute instructor or common school teacher is not sure of the facts that are to be taught in this new science, and less sure how to teach

the same. Most writers for school periodicals of to-day are as far afield. Hence, little or nothing is found in the average educational paper on this subject, and the publication of the SCHOOL PHYSIOLOGY JOURNAL, a monthly magazine, is an imperative necessity.

At her desk in the picture on page 73 is Miss Mirick, the assistant editor of the JOURNAL. The picture of the editor-in-chief in her study is shown on page 67.

Each number of the JOURNAL contains material that can be found nowhere else in the world, model illustrated lessons in temperance physiology for primary, grammar and high school grades. Each lesson is accompanied by expert testimony of science in support of the truths taught in the lesson, for the teacher's use if too advanced for her class. She will teach with more force and assurance if she knows that she is imparting assured truth. In addition to this help, the lessons are pedagogically of the greatest value to the teacher.

If a copy of the JOURNAL should each month for the next ten years reach every one of the 450,000 teachers in America who are training the 22,000,000 children of school age under scientific temperance instruction laws, it would hasten by as many years the coming of the day that ere long will dawn on *America with no Saloon.*



The Research and Translation Room. See page 68

DEPARTMENT EXPENSES

The question is often asked, how are the heavy expenses of the Bureau of Scientific Temperance Investigation met, as well as those of the Department of Scientific Temperance Instruction in the public schools. The carefully kept accounts of these two lines of work are officially audited each year. The vouchers show that between $8,000 and $9,000 each year (this year $8,035.19) are expended in literature, foreign and American, wages to secretaries, printing, postage, office supplies, traveling and other expenses for the department.

Toward meeting this large outlay the national Woman's Christian Temperance Union pays $800 per year, not quite one tenth of the whole. The burden and anxiety of raising the remainder falls upon the national superintendent who must obtain it by contributions solicited from persons who see the relation of this form of education to the preservation of the republic. The intimation, originally made by the brewers, that Mrs. Hunt has personally profited by the sale of indorsed text-books on temperance physiology is untrue in every particular. She has given not only twenty-five years with no salary but the proceeds from her literary work and lectures to help meet the constant demands of the work dearer to her than life itself.

These facts she never states unless they are wrung from her in defense not of herself but of the work.

But sacrifice has its rewards.

The child is born who will see the last legalized saloon, brewery and distillery of alcoholic drinks disappear from the land, if we now do our part.

How old that child will be when this disappearance occurs is the question of the hour.

In searching for an answer, it is legitimate to expect that from the momentum now acquired a greater gain in anti-alcohol and no-saloon sentiment will follow in the second than did in the first fifteen years of general scientific temperance instruction in the schools of the nation.

In 1890, the first text-books which had largely been revised and adapted to grade began to go universally into the hands of the pupils in the public schools and to be used with tolerably good methods of instruction.

RESULTS ALREADY ACHIEVED

Here are some of the results to which this instruction has contributed, through increased knowledge of the laws of health, including those that teach abstinence from alcoholic drinks and other narcotics, and better obedience to these laws:

1. A gain in the decade, 1890-1900, of 4.1 years in the average length of life in the United States.

2. The smallest per capita consumption of alcoholic drinks of any of the great nations.

3. A reduction of 70% in the gain in per capita consumption of alcoholic drinks in the United States.

And this in spite of the enormous foreign immigration which has flooded the country during this period.

4. The sobriety of the American workman acknowledged to be an important factor in the nation's industrial and commercial progress.

For 15 years the schools have been teaching that alcoholic drinks impair working ability. A constantly increasing number of employers require abstinence of their employees. Nearly 1,000,000 railroad men on 200,000 miles of track in the United States are required to be abstinent.

"Certainly we could not have made the immense strides industrially that we have in the past seven years unless the great masses of our skilled workmen were temperate."—*Wall Street Journal* (N. Y.), January 19, 1904.

CREATION OF TEMPERANCE SENTIMENT

While there is immense ground for hope in the preceding facts, the sure foundation for ultimate and not far off victory rests on another and most important factor. It is estimated that 5,000,000 votes were cast in this country this year for local closing of the saloon. Every attempt to prove that there is scientific defense for even the most moderate drinking of alcoholic liquors has fallen to the ground.

Truth imperishable and invincible cuts its way while error falls before it. But God never does our part. It is our part to get the truth to the people, to the majority which in this country is the law-making power.*

> The saloon exists today by the will of the majority of the voters.
>
> A majority of the voters of tomorrow are in the first five years of the public schools of to-day.
>
> Thorough scientific temperance education in the first five school years means future no-saloon majorities.
>
> Neglect of scientific temperance education in the first five school years means future saloon majorities.

I will tell you how old that child will be who will see the last saloon go from your state, if you will tell me how you are enforcing your scientific temperance instruction law; whether you are putting an oral lesson book into the hands of the primary teacher as a guide for oral instruction of the pupils in the first three primary years, and an indorsed primary text-book into the hands of fourth year pupils, with a more advanced book for fifth and sixth grade scholars, another still more advanced for seventh and eighth grades, and a high school book for first year high school pupils; and if you are sending the SCHOOL PHYSIOLOGY JOURNAL to all your teachers.

With these helps to new and interesting study each year, and the JOURNAL for teachers, good work will be done and intelligent temperance sentiment will be created. Without them it can not be.

How many lessons per year are required? Three or at most four lessons per week for ten weeks of each year will cover the subject as shown in our courses of study.

A PROPHECY OF GOOD TIDINGS

The time and scene have changed.

It is not the year of our Lord 1904, but four years later, and we are not in Philadelphia but in the south watching with the citizens there for the latest news. Thrown upon the canvas are the*

> 1908 Texas Election Returns
>
> The last legalized saloon voted out of the Lone Star State

Mrs. Stoddard, President of the Texas Woman's Christian Temperance Union says, "Persistent education in the schools and of the voters has brought this result. Texas, the largest state in the Union, is the first to drive out the saloon through local option."

> 1909 Ohio Election Returns
>
> The last legalized brewery, distillery, and saloon voted out of Ohio to-day

Mrs. Clark, state president says: "Following the publication and world-wide reading of 'Uncle Tom's Cabin,' Mrs. Harriet Beecher Stowe, the author, was presented to a great audience in London. A beautiful gold bracelet on which was inscribed the date of the emancipation of slavery by act of the British government was given her with the request that she should have recorded in the vacant place designed for it the year when America should abolish human chattel slavery.

*The inclosed paragraphs which follow were thrown upon the canvas in turn

"Mrs. Stowe replied, 'I accept with app reciation the gift with its instructions, which I will transmit to my daughter who in turn shall transmit it to her daughter. Perhaps in her life time the awful system of human chattel slavery now hopelessly entrenched in custom and power may be abolished in free America and that far away date inscribed on this beautiful bracelet.' But in less than ten years Abraham Lincoln signed the Emancipation Proclamation.

"So this second emancipation has come sooner than we at one time dared to hope. God's blessing on scientific temperance education in the public schools and the education of the voters through the Voters' Information Bureau have done it."

Mrs. Chambers state president says: "Pennsylvania was the first state to enact, in 1885, a strong scientific temperance education law with a penalty. During the subsequent years it has been well enforced, and the abolished saloon has followed."

1920 New York State Election Returns

The last saloon, brewery, and distillery of alcoholic drinks voted out of the Empire State today

Mrs. Graham, state president says: "Scientific Temperance Education in the public schools, the Sunday Schools, the Loyal Legions and all other temperance efforts have done it."

The Correspondence Room. See page 68

1916 Illinois Election Returns

The fires have gone out in the distilleries of Peoria. The last legalized distillery, brewery, and saloon voted out of this state today

Miss Marie Brahm, state president, says: "We had enacted in 1897 the best temperance education law in the country, and we have enforced it in the public schools of the state, and have worked to the voting list as well, after the plan of the Voters' Information Bureau, and here is the result."

1919 Pennsylvania Election Returns

The last legalized saloon, brewery, and distillery voted out of the Keystone State today

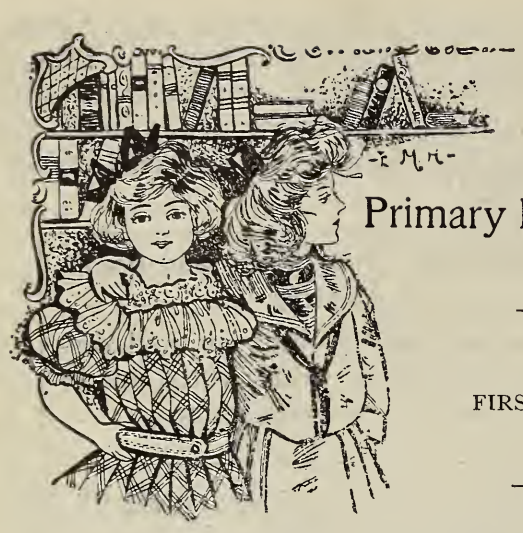
1925 America and No Saloon

By the vote of the people, the manufacture and sale of alcoholic drinks are abolished in the United States.

Through the schools and every other possible avenue the truth as revealed by modern science against alcohol for twenty years has been spread broadcast. God's spirit has energized it. The vote today represents the intelligent moral conviction of an overwhelming majority of the American people, that alcohol as a beverage is by nature an outlaw that should be banished from human habits and shall be banished from the traffic of the nation.

MARY H. HUNT,*

*Director Bureau of Scientific Temperance Investigation and Superintendent Department of Scientific Temperance Instruction of the World and National Woman's Christian Temperance Union



Primary Lessons

FIRST YEAR

EXERCISE AND REST

IT is a sad commentary on the work of a school when children acquire brain power at the expense of a crooked or deformed body, and yet this occurs over and over again.

A healthy child sits and stands well until he enters school. He will continue to do so under proper physical conditions. If, instead, he grows round-shouldered or one-sided it is proof positive that something is wrong.

Perhaps the desk is too high, or too low, or ill fitting in some way. In other cases, the working periods are too long, and the child has not been allowed sufficient opportunity to move about and exercise freely. Again, slight faults in position have not been corrected, but have been allowed to increase until they have become serious defects.

Whatever the cause, it should be ascertained and removed at once, but better than any remedial measures is such careful attention from the very first to correct sitting, standing and walking as will keep the child as erect and robust in school as he naturally is before entering.

Much of this responsibility falls of necessity upon the teacher of the entering class. If the little ones are given right physical training at the start it will be easy to continue the work, and there will be few faults to correct. First of all, let each exercise be interesting, put in such form as will appeal to children.

Play as well as work is ten times more attractive if done from some motive, and this should vary with the exercise. Sometimes it is to make a particular muscle strong or skillful; sometimes it is to limber the spine, or give a graceful carriage to the head. Whatever the movement, the children should know what it is for before learning how to take it.

(1)

EXERCISE OF THE WHOLE BODY

Bring the smallest child in the class to the front of the room. Ask who has a brother or sister at home that is smaller yet.

Can these baby brothers and sisters walk and run as fast as you can? Why not? Why do they often fall down when they try to walk?

Show the children a picture of a baby trying to walk. Ask what this baby is doing? Sometimes his mother puts him in a little wooden frame? How does that help him to stand? How does he learn to walk?

Who has longer legs and arms, you or this baby? Whose body is the larger? What can a baby do to grow larger and stronger?

Tell stories about the Indian papoose that is strapped in its basket all day, and the Italian bambino whose legs and arms are fastened close to his body by the square of cloth that is folded around him.

Which baby do you think will grow faster and learn to walk quicker, your little brother at home that can roll about and can move his arms and legs as much as he likes, or these babies that have to sit or lie still all day?

Compare your own arm with one of the children's arms. Which is the larger? Ask what makes your arm larger. What can children do to make their arms larger? their legs? their bodies?

Some child will probably have the right idea by this time. If not, tell them that every part of the body grows by being used.

If we want stout legs and arms, we must give them something to do every day. If we want to grow fast, we must use our whole bodies.

GAMES

Games and plays for children should be chosen with a view to their formative influence on bodily health and grace of movement. They should also be of such a nature as to appeal to the child.

At first, the teacher should play with the children, directing every game and exercise, showing the children how to play, and making the plays really helpful.

Many plays can be invented by imitating objects in nature.

Let us play we are a row of little maple trees. How shall we stand? Just as tall as possible. Heads up, chests high, weight mostly on the balls of the feet, arms at the sides.

Now the wind blows. It sways us to the right and to the left. It bends us forward and backward, but we do not fall.

Similarly, the children may play that they are a field of wheat, stalks of corn, tall sunflowers, or a weathercock, a church spire, or a group of mountain peaks reaching up towards the sky.

At other times, let them play they are birds or lambs or kittens, and imitate the motions of each of these animals.

Familiar occupations are interesting to children, and are helpful in giving exercise to every part of the body. Let them play farmer, going through the motions of preparing the ground, sowing the seed, cutting the grain and bringing it home.

Another day, let them play miller as he grinds the corn and wheat; then mother as she sets the sponge and bakes the flour into bread.

Again, the class can be carpenters building a schoolhouse or a house to live in; a shoemaker making shoes; a woodchopper, or a miner getting fuel to keep us warm.

Household occupations such as washing, ironing, sweeping, dusting, etc., may also be performed in pantomime by the children led by the teacher.

In all cases, tell about the need of such work in the home and outside, the right ways of doing it, and how it helps to make the worker strong and healthy.

In all games played with children, the teacher herself will be a model of courtesy and thoughtfulness. In this way, the children who always imitate those they are with will unconsciously become fair-minded, polite, unselfish, and kind to others.

Editorial Room of the School Physiology Journal. See page 63

(2)

EXERCISE OF THE PARTS OF THE BODY

In addition to games and plays which exercise the whole body, each part of the body needs special exercise to give it proper freedom and ease.

Watch the children to find which parts of their bodies are most undeveloped. These are the parts that need special attention.

When the children stand, notice which ones do not take a firm position on their feet. Call such children to the front of the room where they can watch the teacher when exercises for the feet are being given.

See that the feet are placed flat on the floor pointing outward when the class take position, and that no seat is too high for any child.

Foot drill. Raise the right foot, cross it over the left. Bring it back to position. Repeat with left foot.

Leg drill. Stretch right leg forward, to the side, backward. Swing leg forward and backward. Repeat with left leg.

Trunk drill. Bend at hips forward, backward, to the right side, to the left side.

Arm drill. Stretch right arm forward, to the side, backward, over the head. Repeat with left arm. Repeat with both. Swing arms at side.

Hand drill. Clap hands, right over left, then left over right. Open and shut fingers in turn, then all together.

Head drill. Bend head slowly to right, to left, forward, backward. March around room wearing paper caps, then with sheet of paper or cardboard on head.

(3)

BREATHING EXERCISES

Special attention must be given to the way children breathe. If a child breathes through the mouth instead of the nose, find out what the trouble is. If he has difficulty in breathing properly, consult a physician.

Practice deep breathing from three to five minutes at a time twice a day, using one or more of the following exercises:

Have the class stand erect, weight on both feet, hands on hips.

Inhale (breathe in) slowly and deeply through nostrils. Exhale (breathe out) slowly through nostrils.

Repeat, exhaling through mouth.

Inhale slowly, while raising arms at the side to the level of the shoulders. Exhale, letting arms drop slowly.

Inhale, rising slowly on tiptoe. Exhale coming back to position.

Run slowly a short distance out of doors,

keeping mouth closed and breathing through the nose.

Quicken the pace gradually, then increase the distance, taking care that no child breathes through his mouth, and that no one overexerts himself.

Before taking any of these exercises, see that each child's clothing and shoes are comfortable, with no tight bands or garters to hinder the freest possible movements.

(4)

REST IN CHANGE

Ask the children to watch a bird or squirrel for a few moments. What were some of the things you saw it do? Who can think of a reason why it does so many different things in a day?

Why do you not like to do the same thing all the time?

How do your legs feel after you have been running or jumping rope? How do your arms feel after you have been holding baby, or carrying a heavy bundle?

Why is it that even when you are tired of playing one thing you feel rested enough to go on playing something else?

Mrs. Hunt's Study, showing Cabinet of Scientific Quotations. See page 67

After asking such questions as these to bring out the children's own thoughts, tell them that every part of the body feels tired and needs to rest after it has been used.

If we have been sitting still, using our arms until they feel tired, we may still feel like running because our legs were not busy while we were using our arms. This is the reason we like to run and play after we have been sitting still in school.

After we are tired playing, we like to sit still and use our hands and arms or our heads, because those parts of our bodies do not have so much to do when we run.

Tell something you feel like doing after you have been spinning a top or playing marbles; after you have been sitting still.

Why do you like to have something to do at the blackboard after you have had seat work? Why do you like to sit still after marching?

(5)

REST IN SLEEP

If you did something different every few minutes could you keep on all night playing or working, as well as all day? Why not?

We can rest one part of the body for a time by using some other part, but after awhile all parts get tired and need rest. How can they get it?

Explain by telling the story of

ELSIE'S DREAM

Do you ever have to go to bed before you want to?

Elsie did. Almost every night mother would come with her little white nightgown long before she was through playing, and off she had to go to bed.

Sometimes this made her very cross, and at last mother thought she would try a new plan. She said nothing about bedtime, although it was long past the hour.

Elsie had a fine time playing with her ball and brother Ned's trumpet, but at last they both dropped to the floor and she climbed into the big chair to rest.

Old Max snuggled up as close as he could and then a very strange thing happened. He began to talk, and this what he said:

"Don't you think I'm a pretty big dog?

"I'll tell you what makes me such a big, strong fellow.

"When I was a very little puppy I slept most of the time. When I grew larger I did not need so much sleep, but I went to bed before dark every night and slept till morning.

"The door of my kennel was always open, so I had pure air to breathe.

"I never had a light in my kennel, because it is better to sleep in the dark.

"My clothes do not go off and on as yours do, so I can not hang my day suit to air at night and my night clothes to air in the daytime like you, but I do what I can. I shake my coat a good many times every day.

"I take a bath very often too, and that keeps me fresh and clean."

"You talk just like mother," said Elsie. "That's what she said today."

"My little girl must have been dreaming," said mother when Elsie told her the next morning what Max said.

Max said nothing when Elsie asked him about it, but she was quite sure she saw him wink.

She did not have to be told twice to go to bed the next night.

When seven o'clock came she got ready for her bath without a word.

All the clothes she had worn during the day were hung up on the foot of the bed to air. Her window was wide open, and she did not once ask to have the light left to go to sleep by.

"I guess I know as much as a dog," said Elsie, "if Max does know a lot!"

Max winked again but said nothing. He did not need to give Elsie any more advice.

Scientific Temperance Museum, 23 Trull St., Boston, Mass.

Tell this story to the children near the end of a school day when they begin to feel tired and restless.

Talk over the main points which they need to remember. Why everybody needs sleep, and children more than grown people; what time they should go to bed, and how long they should sleep; why they need pure air in their bedrooms, and how they can get it without danger of draughts; why one should not wear the same clothing at night that he has worn during the day, and why clothing that has been worn should be aired before it is put on again.

Explain, too, why it is better to sleep in the dark, because one sleeps more soundly and wakes up in the morning feeling more rested. Then, too, the air in the bedroom can not be so pure when gas or a lamp is left burning.

Find out little by little the children's present habits about going to bed, and suggest a better way when such is needed.

The old proverb,

Early to bed, and early to rise
Makes a man healthy, wealthy, and wise,

written on the board, and memorized by the children may close the lesson.

EDUCATIONAL HINTS

The object of an education is that a man may benefit himself by serving society.

A formula for education is happiness through useful activity—animation, kindness, good-cheer, patience, persistency, willingness to give and take, seasoned with enough discontent to prevent smugness, which is the scum that grows over every stagnant pond.

Freedom can not be bestowed—it must be achieved. Education can not be given — it must be earned.

Without animation, man is naught — nothing is accomplished, nothing done. People who inspire other people have animation plus.

A man who is not moved into ecstasy by ecstasy is hopeless. A people that has not the surging, uplifting, onward power that ecstasy gives, is decadent—of no influence in the world.

Education is simply the encouragement of right habits—the fixing of good habits until they become a part of one's nature and are exercised automatically.

Man gets his happiness by doing.

ELBERT HUBBARD.

THE CALL OF THE NEW YEAR

"Another year is but another call of God.
To do some deed undone and duty we forgot;
To think some wider thought of man and good;
To see and love with kindlier eye and warmer heart,
Until acquainted more with Him, and keener-eyed
To sense the need of man, we serve
With larger sacrifice and readier hand our kind."

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TEMPERANCE INSTRUCTION IN SCHOOLS ABROAD

EVEN cursory examination of foreign journals shows how rapidly the American plan of preventing intemperance by early instruction of children and youth is being adopted abroad.

NORWAY AND SWEDEN

The Miner, edited by Professor Johan Bergman, Ph. D., of Sweden, contains a recent article by Professor Haslin which says:

"In the plans for the Norwegian Middle School, it is prescribed that one hour every week must be occupied with the anatomy of the human body and the elements of hygiene. The law also says that instruction must be given on the effects and dangers of alcoholic beverages. The children must be taught that a continued use of such beverages, even if it never comes to intoxication, has a dangerous influence on almost every vital organ of the body, and that it brings the individual into such a condition that he can not be without them."

FRANCE

As is well known, the school authorities in France have for a long time past been favorable to temperance instruction in the schools. By request of the highest chief of the schools, M. Buisson, the minister of education a few years ago issued a circular to the teachers urging them to do their best among their pupils to create a dislike for alcoholic beverages, and to represent strongly to them the dangers of drinking for the individual and for society.

This official circular was followed by a complete program for higher schools and seminaries and also for common schools. The intention was to give the whole school instruction on anti-alcohol subjects equal to the instruction in natural history and ethics.

The new school law of May, 1902, requires the school authorities in France to provide anti-alcohol instruction.

In the last grade of the intermediate department, one hour every week must be occupied with physiologic studies. Alcoholic beverages are mentioned among the poisons to be studied in connection with the nervous system.

In the higher grades of the high schools is prescribed a course on animal and vegetable physiology besides twelve lectures on hygiene, half the time to be spent on the study of alcohol and its hereditary effects.

The program for ethics in the highest grades requires the teachers to pay due attention to the dangers of using alcohol, to its physical, moral, and social effects, and to the moral depravity, and pauperism caused by it.

BELGIUM

In 1899, a superintendent of schools in the district of Limburg and Belgium started a temperance society after the pattern of the English Band of Hope.

The same year the minister of education issued a circular recommending this temperance work in all the schools, and shortly afterward another stating that all pupils studying to be teachers must have instruction on temperance.

The law now in force in Belgium prescribing instruction in temperance gives very strict rules for the study which must be pursued in every school. The teachers must be prepared to give special lectures, to show colored pictures, and give other suitable illustrations, taking about one hour each week. Pupils in the higher grades take notes which are corrected by the teacher.

Some time ago King Leopold offered a prize of 500 francs for the best text-book on this subject, and in 1899 the government offered a prize of 1,000 francs for the best set of wall pictures and charts for the teaching.

OTHER COUNTRIES

In Switzerland, Holland, Finland, and Denmark instruction is given in connection with other subjects. It is not prescribed by law, but by the minister of education. Text-books have already been prepared and are in use.

Recent agitation in Great Britain in favor of better teaching in physiology and hygiene, with special reference to the nature and effects of alcoholic beverages and other narcotics, has already been noted in recent issues of the JOURNAL. There is no more encouraging sign of progress in this work in any land than the action last year of British physicians looking toward thorough, systematic study of this subject by all pupils in all schools, particularly those in the lower grades, and the adoption in certain cases of American indorsed physiologies and courses of study, pending the preparation of suitable works at home.

Grammar Lessons

FOURTH YEAR

CIGARETTES

"IT is an ignorant man who is satisfied with the public school system of the United States; and a very ignorant man who is not proud of it."

Such is the conclusion of a careful investigator after studying schools and school life in different parts of the country for a year, and it is one to which most careful observers will assent.

In no other country in the world are such educational possibilities open to children, and nowhere else has so much already been accomplished through the public schools. But what has been done is insignificant compared with what might be achieved if every child should be kept at his physical best.

Unfortunately, many are now handicapped by faulty surroundings in the home, by diseases that could be prevented, and by bad habits. These conditions must all be changed before there can be adequate returns from our great educational investment.

This is very largely the work of the school. It must teach the children what good health is, and how it depends upon right living at home and everywhere else; it must use its influence to have every child well fed and suitably clothed; and it must see that all signs of disease are brought at once to a doctor's attention. Most of all, it is the business of the school to know what habits the child is forming, and by example and instruction to make sure that these are such as will be a help instead of a hindrance to him after he leaves school.

Teach good habits first, and the conditions which make for health and growth. Then bring out ways in which both may be injured, perhaps for life, by the practice of bad habits. The lesson which follows shows

WHAT THE CIGARETTE IS RESPONSIBLE FOR

in stunting growth and injuring health, in weakening brain power, and in degrading morals.

Aesop's fable of the fox and the lion's den may be told to introduce the question.

In order to catch his prey more easily, the lion once sent word to all the beasts that he was ill, and that they were invited to come to his den to see him, inasmuch as he could not go to them.

Many accepted the invitation, but the fox kept aloof and refused to go.

When the lion sent to ask why he alone did not come to pay his respects as the others did, the fox replied that he feared to enter the cave, because he had noticed that while there were many tracks leading into it, none were to be seen coming out again. For this reason, he preferred to remain outside where he knew that he was in no danger.

Ask the class if they know of any such dens in real life, and develop the idea that bad habits often hold their victims so tightly that they can not break away from them.

Instance cigarette smoking as one such habit. Ask each pupil to count up the boys and men he knows who smoke cigarettes or use tobacco in some form, having them give the number without mentioning any names.

Then ask the class how many people they know who used to smoke but have now given it up. They may be able to think of a few such persons, but not many. The tracks of the tobacco user all lead the other way,—towards this habit, not away from it.

Why is it that this is true?

To answer this question we must know what there is about tobacco that makes it so hard for a person to give it up after he has once begun its use, and how it hurts his body and mind.

COMPOSITION OF TOBACCO

Let the class tell what they know about the making of cigarettes and other forms of tobacco found on the market. Then have them turn to the index in their physiologies and show them how to find from it what their text-books say on the subject. Call on different ones to read aloud all that is to be found in this way.

In this grade it is not necessary or wise to call attention to all the minor ingredients sometimes found in the tobacco of commerce. It is enough for the class to know that the harm in its use is chiefly due to the nicotine it contains, to the adulterations sometimes present, especially in the cheaper grades of tobacco, and to the smoke and impure air which are taken into the lungs while smoking.

Bring out each of these points fully and clearly, showing just why tobacco is harmful to the user for each of these reasons, and often to others as well who may be near him.

After learning from their books that nicotine is a powerful narcotic poison, help the pupils to find out what a narcotic is, and why nicotine comes under this head. The dictionary and other books of reference which the library may contain should be freely consulted for this purpose, under the guidance of the teacher.

Make sure also that all have a clear idea of what is meant by a poison. Let the pupils define the term as well as they can, then write on the board for them the statement that a poison is any substance whose nature it is, after being absorbed into the blood, to injure or destroy the body.

Call for the names of some of the most common poisons. Tell the class that while some are more harmful than others all are dangerous except in the hands of a skillful physician or chemist. Pure nicotine is one of the most powerful poisons.

Why is it, then, that some people smoke or chew and yet do not seem to be harmed by the nicotine in tobacco?

Let any one in the class who can do so offer an explanation. Then tell them there are several ways of accounting for this fact.

The home staff of Scientific Temperance Workers
Miss Stoddard, Mrs. Transeau, Mrs. Hunt, Miss Gurney, Miss Mirick, Miss Grant

In the first place there is very little nicotine in each cigar or cigarette. If the smoker stopped there he might not feel any serious effects, but few people do stop. They use more and more tobacco after once beginning its use, until by the time they begin to feel injured by it the habit has so strong a hold upon them they can not shake it off.

Another reason is that the repeated use of tobacco in any form may so dull the brain and nerves that the user does not realize the harm it is really doing until it is too late to repair the damage.

Other people do not begin to use tobacco until they are already strong, healthy men. Such persons will not be so likely to be injured by it as if they had begun to smoke or chew when they were boys. But there is nothing in tobacco to help any one. On the other hand, every one who uses it will sooner or later have to suffer the consequences.

Appoint a class committee to find how the ordinary cigarette is made, and what goes into it. What is the reason it can be sold at such a low price? Why is its cheapness alone proof that it is not fit to be put into the mouth?

Almost all cigarette smokers form the habit of inhaling the smoke. Bring out two ways in which this practice is especially harmful.

Explain that everybody needs to breathe pure air all the time in order to keep well and strong. The tobacco inhaler takes impure and poisoned air into his lungs, instead of the oxygen he needs, so he is doubly harmed.

EFFECTS OF SMOKING ON GROWTH AND HEALTH

Ask each pupil to write a short description of the kind of man or woman he or she would like to be when grown up.

Have these descriptions read aloud, then copy on the board the characteristics which appear in the majority of the papers.

Probably nearly all of the class will agree in wanting to be tall, healthy, good looking, rich, and successful in whatever business they undertake. How can they make good their desire?

Take time for a short discussion of each of these characteristics, and of what each boy and girl can do towards acquiring it.

Turn to the physiologies and help the class to find what young people can do to help growth, to keep well, to get and keep a clear, fresh complexion, and to acquire a graceful walk and carriage.

Consult other books on hygiene which may be in the library or be otherwise available for the same purpose, showing the pupils how to find from the index of the book or the chapter headings the different topics they wish. Have the best paragraphs read aloud, and let the pupils give the substance of others in their own words.

When they understand that these good things do not come by chance or good luck, but by real effort on the part of those who desire them, bring out the fact that boys and girls can also

shut away from themselves every one of these advantages by living the wrong kind of lives.

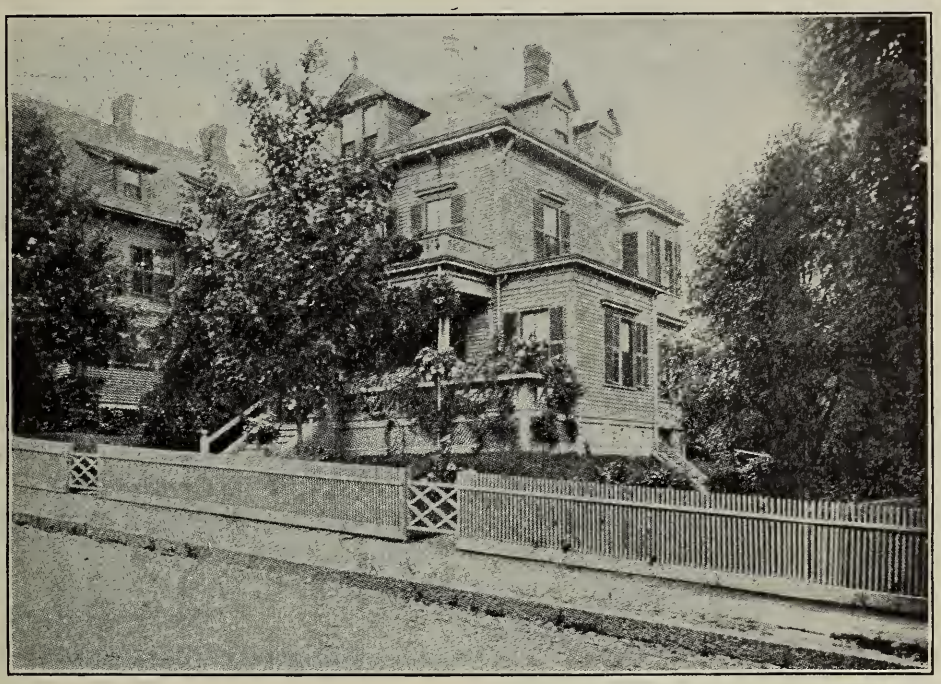
Refer the class again to their physiologies to find what these have to say as to the effect of cigarette smoking on growth, health and personal appearance.

Let them find how it affects the heart, the brain and nerves, the skin, the eyes, and other organs of the body. Most boys who have ever tried to smoke know, without being told, how it upsets the stomach.

Write down the name of each part of the body that may suffer from the effects of cigarette or tobacco smoking. Then let the class try to find some part or organ that is benefited, or at least not injured, by the use of tobacco. Which list is the longer? What does this show as to the wisdom or folly of forming the cigarette habit?

EFFECTS OF SMOKING ON WORKING ABILITY

If a boy or girl wants to go into any kind of business and succeed, it is necessary to have some kind of a recommendation to start with. What kind of a recommendation does the cigarette smoker have?



Headquarters of Scientific Temperance Instruction, 23 Trull St., Boston, Mass.

Most employers nowadays ask to see the fingers of boys who ask for work. What is the reason? What is the result if they find a boy's hands stained and yellowed by cigarettes? If they notice that he is thin and undersized and nervous, with the odor of tobacco in his clothes?

Why is it that a cigarette smoker is likely to be the last person trusted with money or any important piece of work in an office? Why do people often disbelieve what he says, even when he speaks the truth?

If the class can not answer these questions and others which will suggest themselves in this connection, have them turn to their books and there find how the use of cigarettes weakens brain power and muscle power, and how it makes wrong doing easy and right doing hard.

Every one in the class has seen a race of some kind and has taken part in some contest of swiftness or skill. Ask how they would prepare for a running or skating match or any similar test. Why not wear tight shoes or a heavy overcoat at such times? Why not try to carry as much as possible in each hand?

The folly of any such handicap can be seen at once. Why is it any less foolish to weigh one's self down with the tobacco habit which is always a hindrance in every kind of an undertaking?

Do not be afraid to admit that many successful people do smoke in spite of these things. But call attention to the fact that few if any began the use of tobacco while they were boys.

Explain also that they have been successful in spite of the tobacco habit, and not because of it. If they have done well while carrying such a weight, how much better would they have succeeded without it! Ask the pupils in your class how many of them think they would be able to hold their own against others in business who are free from such habits. Is there one who would be willing to take the risk?

Speak of others, like General Grant, and the late Emperor of Germany, whose lives of usefulness were cut short by the use of tobacco. Nobody who begins to smoke or chew knows how susceptible he will be to the poison he is thus taking into his body, or how long he will be able to keep his health and strength afterwards. It is too big a risk to run to make the attempt.

In the forts that protect the frontier of a country, there are always soldiers on guard to give notice of the approach of a possible enemy. It is just as important, on a smaller scale, for each person to guard the approaches to his own body and protect it from every enemy which would harm or destroy it.

We must set this guard, find out what our enemies are, and keep so vigilant a watch that they will never pass the fortifications and enter the citadel.

AUTHORITATIVE QUOTATIONS

EFFECTS OF NICOTINE

Nicotine is the most active element in tobacco. Its immediate effect is to lower the circulation, quicken the respiration, and excite the muscular system; its final effect to cause general relaxation. In "tobacco heart" the heart's action becomes irregular and irritable, and the walls are hypertrophied or thickened. There is no cure without stopping the tobacco. The tendency to increase the amount of tobacco is irresistable.—F. M. CRANDALL, in *How to Keep Well.*

THE POISONOUS ELEMENTS IN TOBACCO

It is well known that nicotine is a powerfully poisonous element in tobacco leaf. But too little attention seems to have been paid to the relatively large quantity of the poisonous gas, carbon monoxide, in tobacco smoke.

When the insidious nature of this gas, which is precisely the same as that which exists in the fumes of burning charcoal, is considered, it is not improbable that the poisonous symptoms which are apt to follow are due to a very large extent to the carbon monoxide in the smoke.—*London Lancet.*

TOBACCO A HINDRENCE TO ATHLETIC DEVELOPMENT

Among life insurance and athletic training men there is but one course, total abstinence. And among our men there is nothing that will throw a man down and out more quickly than the use of liquor or tobacco.—E. HITCHCOCK, *Amherst College.*

I have found, in my experience that young men are better off, and do better work without alcoholic stimulants than with them, and they are, therefore, absolutely prohibited in our training.—CHAS. E. COURTNEY *of Cornell University.*

It is absolutely neccessary for a college or school athlete who is striving to win a place on any team to have endurance, especially is this true in rowing and football. This can be accomplished to the greatest degree only by abstaining from the use of tobacco and alcoholic drinks while in training.—M. F. MCBRIDE, *Capt. of the Yale Football Team of 1899.*

The use of any kind of alcoholic spirits or of tobacco is absolutely forbidden to athletes in training for any athletic event in Stanford University. Those who violate this rule are dropped from the teams. This rule is not one made by the faculty, but by the students themselves, under the advice of their coaches. It is found that any amount of alcoholic drink or the smoking of a single cigar will prevent a man from doing his best in football or other games. About six years ago it was the belief of one of our coaches that the use of ale would help the men in training for football. This beverage is used in England for the purpose of giving a man energy and strength. The result in the two years in which ale was used was very discouraging. The teams in both cases "slumped" that is, fell short of their ordinary power of work.

It has become in this and other institutions a matter of honor for every student becoming a member of an athletic team to keep training rules for several weeks before the great events and it has now become a student tradition that to break these rules is a moral delinquence.—DAVID S. JORDAN, *Leland Stanford University.*

EFFECTS OF TOBACCO-USING ON CHARACTER

Tobacco does not spare the morals. The tobacco-user is apt to manifest a selfish disregard of the courtesies due to others. He brings to the presence of others a repulsive breath, and clothing tainted with offensive odors. He poisons the atmosphere that others must inhale, and disputes their right to breathe a pure, untainted air. The free use of tobacco by young people dulls the acuteness of the moral sense, often leads to prevarication and deceit in the indulgence, and is apt to draw one downward to bad associates. It is not the speed but the direction that tells on the future character and destiny of young men.—A. F. BLAISDELL, M. D.

THE SELFISHNESS OF TOBACCO-USING

Most smokers seem to forget that the air is public property. Even on the streets there are many occasions when it is not possible for a man to smoke without having the smoke carried directly to the nostrils of those to whom it is both offensive and injurious. The habit of chewing is almost invariably offensive to sensitive persons, and the indulgence of the habit in public is an infringement on the rights of others.

Perhaps Robinson Crusoe might have been excused for using tobacco, having no one to save money for, no unfortunates to aid, no children to educate, no one to whom he might set a bad example, no one whose breath of air he could contaminate, no one to smell his breath, no one to see the offensive results. But a man living in the society of so many to whom this habit is so offensive, ought seriously to ask himself *whether he is doing right* to continue such a practise.—B. P. COLTON, A. M.

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The School Physiology Journal

ASPIRATION

As travels this earth, her eye on a sun, through heavenly spaces;
Radiant in azure, or storm-clad, swallowed in tempest,
Altering not, faltering not; traveling equal, sun-lit, or cloud-girt,
So thou, son of earth, who hast time, goal, and force, go still onward.

Translated from Voss, by Thomas Carlyle.

PUBLISHED AT
BOSTON, MASS.
MARY H. HUNT, EDITOR

VOL. XIV. NO. 6
FEBRUARY, 1905

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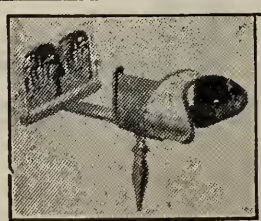

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School Physiology Journal

Vol. XIV *BOSTON, FEBRUARY, 1905* *No. 6*

LOVE OF COUNTRY

"HOW shall we train our Prince? To love his land,
Love justice, and love honor. For them both,
He girds himself and serves her, nothing loath,
Although against a host in arms he stands.

"Ruling himself the world he may command.
Taught to serve her in honor and in truth,
Baby and boy and in his lusty youth
He finds archangels' help on either hand.

"The best the world can teach him he shall know,
The best his land can teach him he shall see,
And trace the footsteps where his fathers trod;
See all her beauty that the world can show,
And how it is that freedom makes men free,
And how such freemen love to serve their God."

VOTERS' INFORMATION BUREAU

BY MARY H. HUNT

A NATION'S most valuable assets are the character and efficiency of its people. Wealth of soil, climate, or mines—sources of strength to a sober, upright people—only facilitate the decay of a degenerate population.

Babylon, Carthage, Greece, and Rome went down, not for lack of wealth but for lack of character. Character is the involuntary expression of individual habits, thought, wishes, and purposes. Aggregation of character in individual utterance and action expresses itself in public opinion. Any nation, most of all a republic, ignores public opinion at its peril. If such opinion is wrong, the only redress is education that will correct the error back of such wrong opinion and change action.

GREAT EDUCATIVE FORCES

The great forces that educate opinion and thus make character are the home, the church, and the school. In America with her mixed population made up of peoples of many nationalities, the school through its teaching of temperance physiology has led the home and even the church on the alcohol question.

It is twenty-three years since the first temperance education law was enacted in this country. For the last ten or fifteen years nearly all our schools have been teaching this subject, many of them fairly well.

GROWTH OF TEMPERANCE SENTIMENT

What effect is this study having on public opinion? Are there enough people intelligently opposed to the use and sale of alcoholic drinks to undertake a hand to hand campaign of education of the voters on this subject?

These questions have been constantly in mind as I have looked into the faces of large audiences, probably 200,000 representative people in all, during the eighteen months' lecture campaign just closed in many states, east, west, north, and south.

The growth of temperance sentiment as compared with that of ten years ago when I was last in those states was so apparent that I dared to say

The child is born who will see the last legalized brewery, distillery, and saloon go from America, if we now do our part.

THE DUTY OF THE HOUR

That part is the securing of more thorough study of temperance physiology, especially in the lower grades of our public schools, and the adoption of the line of work laid out by the Voters' Information Bureau. This Bureau represents the logical application to the saloon question of the total abstinence sentiment or public opinion against alcohol already resulting from public school scientific temperance instruction. The entire scheme of the Voters' Information Bureau is outlined below that the teacher may understand that he or she is doing foundation work in the great movement destined to rid our land from the tyranny of alcohol. The most patriotic statesman can only appeal to and focalize existing public opinion against alcohol, humanity's worst foe. The teacher who is faithfully teaching temperance physiology is making that sentiment.

In more than two-thirds of the states comprising our nation, the question of whether or not the sale of alcoholic drinks shall be permitted in each locality is submitted to the voters of that locality. Thus the right education of the voter who may have left school before scientific temperance, which is now a compulsory study, became a part of the school curriculum is manifestly of great importance.

WORKING TO THE VOTING LIST

The Woman's Christian Temperance Union of Ohio has adopted as a definite line of work for the ensuing year this plan of taking directly to every voter during the year before election

the physiological and scientific reasons for abstinence and no saloons. The executive committee of the National Anti-Saloon League enthusiastically recommends this work as a line of action. In Texas, Illinois, Nebraska and Iowa it finds favor, as it can not fail to do with every sincere advocate of intelligent sobriety. The *American Issue* says of this plan:

"There are 22,000,000 children of school age in this country, and when the boys become of age they should be instructed as to their voting privileges. The Woman's Christian Temperance Union and the Anti-Saloon League are endeavoring to focalize the growing temperance sentiment against the saloon which will mean its death. The child is born who will see the last saloon closed. How old he will be is a difficult question to answer, but he is here.

PLAN OF WORK

"The Voters' Information Bureau plans to have a Christian man, who votes for principle and for men rather than party, to work on five doubtful voters and try to convert them to political regeneration. This work should begin twelve months before election. Each single force by itself is powerless to do effective work against the saloon, but by a union of such forces the saloon is doomed."

THE OBJECT SOUGHT

The object of the Voter's Information Bureau is to convey to every voter the information that proves alcoholic drinks to be physically, mentally, morally, and financially injurious, a menace to character, to achieving ability, a peril to this government of the people, and that therefore such drinks ought to be neither manufactured nor sold.

METHODS FOR SECURING THIS OBJECT

First—Personal work in conveying to each individual voter the truths that prove alcohol to be by nature an outlaw that should be banished from human habits and traffic.

Second—To this end every local union should appoint a superintendent of this department to carry out in her own community the following suggested plans:

(a) The local superintendent should secure a list of the voters of her county, where the vote is taken by counties, or of the town, township, borough, city, or ward if her city has ward option.

(b) By inquiry the superintendent should find concerning each voter on the list whether or not he voted *no* on the question of license and for temperance men on the school board, or whether he should be classed as doubtful on those questions.

(c) Divide the voters into three classes: first, the temperance and no-license voters; second, the doubtful; and third, the license voters.

(d) Secure an organization of representatives from all temperance and Christian workers in the community into an executive committee, with a chairman, secretary, treasurer and literary committee.

(e) Divide the license and the doubtful voters into groups of five.

(f) Secure for each of these groups of five a worker from the allied temperance and Christian people of the city, town, or township.

(g) It shall be the duty of this worker tactfully to convey to each of the doubtful and opposition voters in his or her group, reliable information concerning the evils following the use and sale of alcoholic drinks.

(h) The methods recommended for conveying this information are: personal work with each member of the group of five; calling attention to articles in the local press and elsewhere containing the latest truths of science, told in simple language, and showing the evil nature and effects of alcoholic drinks and the consequent wrong of legalizing their sale.

(i) To aid these workers in their efforts to change the opinions of voters a series of facts on the following and other related subjects in printed form is prepared for this department. Viz: First, the truth about beer. Second—Why fermented liquors are different from the fruits and grains from which they are made. Third—The truth about wines. Fourth—The truth about cider, whiskey and other distilled drinks. Fifth—The alcoholic appetite. Sixth—The hereditary effects of alcohol. Seventh—The financial aspects of the subject. Eighth—Why it is wrong to license the sale of alcoholic drinks. Ninth—Why temperance men and women should be elected as members of school boards.

(j) There shall be a literature committee of this department which shall consist of the director of the Bureau of Scientific Temperance Investigation of the National Woman's Christian Temperance Union, and the national state superintendents of this department assisted by representatives of the state organizations co-operating in this work.

(k) It shall be the duty of this literature committee to originate, select and pass upon the literature to be used in the Voter's Information Bureau. This should be non-partisan in character, and consist of short pithy extracts printed in good sized type. This literature committee may be increased in the states by the addition of state officers of organizations represented.

(l) Each of these Christian and temperance workers who are to undertake this educational work should be asked to contribute to the treasury as nearly one dollar each as they can spare or collect for this purpose to pay for the literature and other expenses of the campaign.

(m) The treasurer shall receive, disburse and render an account of the funds thus or otherwise collected for the purpose of this department.

(n) This campaign of education should begin as nearly as possible twelve months before the local elections that are to decide whether or not saloons shall be licensed, elect officers who are to enforce the no-license law, and choose the local boards of education who are intrusted with the duty of selecting the text-books and courses of instruction in temperance physiology, which is a legally required progressive study for the pupils in all public schools.

(o) The executive committee of this Information Bureau should, long before the caucuses are held, seek for, select and work diligently for the nomination, and later for the election of persons to fill the offices mentioned in the preceding section.

"How shall we train our Prince? To love his land,
Love justice, and love honor."

(p) This executive committee should appoint persons to watch the registration lists as soon as they are open, to be sure that no voter who can be counted on to vote right forgets to register in time to become a qualified voter. The committee should also be represented at the polls by persons who will watch the voting, and with carriages or otherwise bring delayed voters to the voting places.

(q) This executive committee shall hold monthly meetings to note progress, to fill vacancies where workers for any cause fall out, and for consultation as to other needs of the work committed to them.

An exchange of groups, or of individuals in those groups, among the workers during the year may often be of advantage. Great care should be exercised that every voter is reached by this educational method.

(r) If the saloon is driven out of a community one year it may reappear after the next election, unless this systematic work of education of all the voters is continued.

(s) The saloon with its disastrous consequences exists to-day by the will of a majority of the voters. This majority believes, not in drunkenness, but in a moderate use of what the saloon has to sell. The saloon can only be exterminated when a controlling majority of the voters are convinced that it is the nature of the most moderate use of alcohol to create the drunkard's uncontrollable appetite; and that the best interests of the individual, the community, business, and public affairs demand the abolition of the saloon.

Therefore every motive that can influence a loyal American appeals for co-operation in continued and persistent activity in this endeavor so to educate all voters on these topics that this menace to the life of the nation — the saloon—will be abolished.

As the National Bureau of Education reports the average limit of school attendance in the United States to be a little less than five years of two hundred school days each, it is self-evident that a majority of the coming citizens of this country, its future law-making power, are in the first five grades or years of our public schools. Hence any attempt to take the study of temperance physiology from any of the lower grades (years), or text books on this subject from pupils who have books in other subjects, should be opposed to the utmost.

A love of fair play is one of the inherent attributes of childhood, and the teacher who fails to recognize this does violence to the child's nature. To win the boy is often a much greater victory than to solve the problem, and nothing short of fair play will do this.—*Ohio Educational Monthly.*

Primary Lessons

FIRST TO THIRD YEARS

THE FLAG

WHEN the Grand Army of the Republic met last summer in Boston, the most striking feature of the entertainment provided for the veterans was an immense living flag made up of boys and girls dressed in red, white, and blue.

Tears filled the eyes of many an old soldier as he filed past the flesh and blood counterpart of that flag he had often periled his life to save. And as the great chorus of song burst from that multitude of youthful lips, voicing the same love for God, and home, and native land, heads were bared in reverent gratitude that children today are being taught the loyalty and patriotism that their fathers knew.

February is pre-eminently the month to teach love of country. In the upper grades, our two great national heroes whose birthdays are close at hand may be studied in the light of what they did for the United States, the difficulties they overcame, and the lessons that are in their lives for us who must carry on the work they so well began.

For little children, we may best approach the subject of patriotism through the flag with its spectacular appeal to the child's love of color and form and motion.

If there are foreign children in these primary classes, and there are few American schools today that do not number more nationalities than one, give some time and place to the flags of all countries thus represented. Display the flags themselves if these can be had; if not, outline each on the blackboard or on large sheets of manila paper, using colored chalk. The proper design and colors to be used will be found in any unabridged dictionary.

Show what these flags stand for in color and design. In many cases this can be done most tellingly by stories, illustrated if possible.

Tell something of what each flag means to those who live in the country to which it belongs. Explain why every one loves his own flag best, just as he does his own home.

If we went to another country to visit, we should belong under the same flag that we do now, because the United States would still be our country.

But if we went to some other country to live, the flag of that country would become our flag, and it would be our duty to love and serve it just as if we had been born under it.

So our American flag belongs to all the people who have come to this country to live and make their homes here. It is their country and their flag just as much as ours, even if they were born in some other land and we were born here.

Our flag stands for the country that takes care of us all and protects us, whether we are big or little, or rich or poor; but it stands also for the loyal service that each one of us in return owes to the country.

(1)

THE FLAGS WE STAND FOR

Find how many of the children in your class were born in some other country. Set apart ten minutes a day for a talk on the flags thus represented until each has been taken up.

Begin with the flag of the country from which the largest number of children have come.

If this country is Italy, hold up an Italian flag. Give it to one of these children to hold and let the others gather about him.

Why is this flag Tony's and Beppo's and Angela's any more than it is ours?

What country does it stand for? Where is Italy?

Let the Italian children name the colors in this flag and point to each. Some of them may know what these colors stand for. If so, give them a chance to tell about it.

If no one can do this, give such brief explanation as may be found in books on Italy and its flag in the school library, or be otherwise available, adapting language and story to the age and comprehension of the children.

When we see this flag on a house, what does it tell us about the people who live there?

We know they are Italians, or else they have put out the Italian flag because they want to show their love and respect for some one who has come from Italy.

Another day, talk about the German flag in similar fashion.

Then take up in class the Russian or British or Spanish flag, until each child coming from another country has had a chance to see his own flag displayed and to tell something about it.

(2)

THE AMERICAN FLAG

After the flags of all foreign countries represented in your class have been shown and discussed, hold up the American flag.

Whose flag is this? What country does it stand for? How many of us have a right to hold it? Why does it belong to all of us?

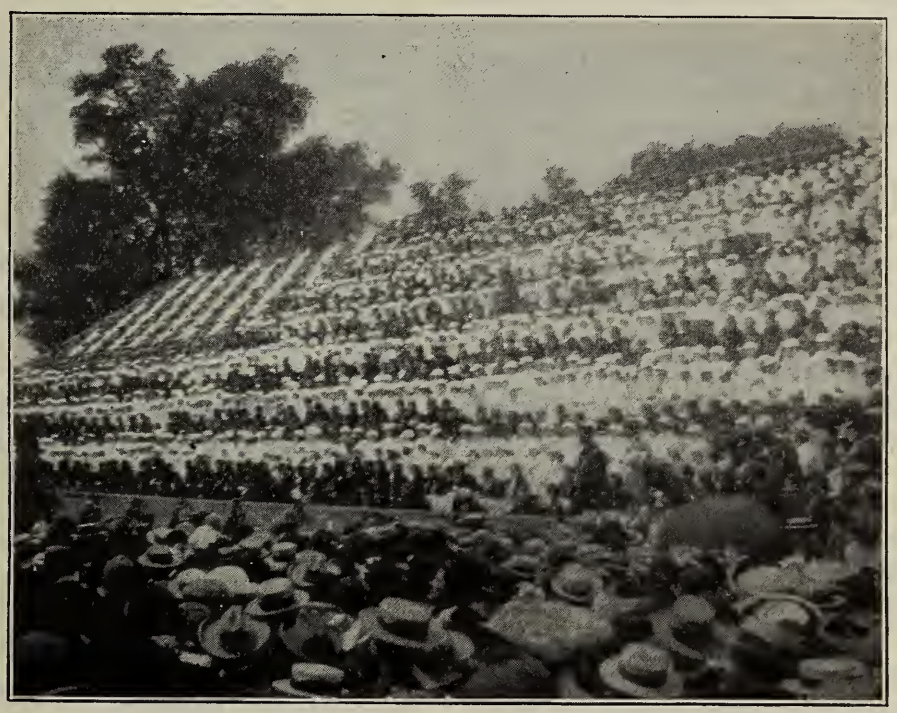
When we see this flag floating over a house or any public building, what does it tell us?

How many colors are there in this flag? Where is the white? the red? the blue?

How many stars in our flag? In what part of the flag are they? How many red stripes? How many white stripes? In what part of the flag are the stripes?

A short flag drill may close the first talk on the American flag at this point, or the children may simply march about the room, each carrying a small flag.

Another day, tell briefly and simply the story of how America got her flag.



"'Keep thou well thy colors,' quoth Freedom to the land,
'And 'gainst a world of evil thy sons and thou shall stand.'"

When the first white people came to this country to live, they brought the flags of their own lands with them. They came from many different lands, so in some parts of our country there were English flags, in other parts French flags, and in others Dutch and Spanish and Swedish flags.

When we began to be a nation by ourselves, we needed to have a flag of our own to represent the new country.

This first flag was not just like the flags we have today. It had just the same red and white stripes as now, but instead of the stars in the upper left hand corner, there were three crosses, one red and two white ones.

This was not a real American flag, because the crosses were the same as those in the British flag.

Washington was the leader of our country at that time, and it is thought he got the idea for our flag from the stars and stripes in the coat of arms of his family.

The first real American flag was made in Philadelphia, by Betsy Ross.

Show the children a picture of the house in which this first flag was made.

Betsy Ross showed Washington how to cut out the stars for the flag. She made all the flags for the country as long as she lived and was able to work.

All the best American flags nowadays are made in the Brooklyn navy yard. They are made of the very stoutest bunting to last a long time, and not fade or tear in the sun and wind.

(3)

THE MEANING OF THE FLAG

Every part of our flag means something. That is one reason why we love it so well.

Count the stars in our flag. How many are there? What does each star stand for?

There were only thirteen stars in the first American flag. These stood for the thirteen states that then made up the United States.

Now our country stretches from the Atlantic Ocean to the Pacific Ocean, and there are forty-five states, so we have forty-five stars in the flag, one for each state.

How many red stripes in our flag? How many white ones? What do these stripes in our flag stand for? Why are there always just thirteen stripes in our flag?

How many colors in our flag? What does each color mean?

Write on the board the names of the colors in the American flag, and opposite each that which it stands for,—red for bravery, white for purity, blue for truth.

If our flag stands for all these hings, we

must stand for them too, or it will not be right for us to carry the flag.

What does it mean to be brave? to be pure? to be true? How can we be brave on the playground? in the schoolroom? Tell something brave that you have seen or know about.

One way of keeping ourselves pure like the white in our flag, is to keep from swearing and using bad words. Another way is to say and do only what we are not ashamed to have other people hear and see.

We are true, like the blue in our flag, when we keep our word, and when everybody can trust us.

Our flag stands for our whole country. It means that every one can go where he likes and do what he likes, and as long as he does what is right the country will protect him and give him a fair chance.

All over the world people know our flag and respect it because they know what it stands for, and because they know it takes care of its citizens.

It would not be fair to have our country and our flag do all this for us and do nothing in return.

Perhaps you think you are not big enough or old enough to do anything for the United States, but that is a mistake.

Our country needs the help of its boys and girls quite as much as they need its protection.

Our country needs good people and wise people and able people to carry on all its different kinds of work and be its rulers, and it will have to get them from the boys and girls who are now in school.

Every young person who does his work well now, and learns his lessons, and is brave and pure and true, is getting ready to be the kind of man or woman our country wants.

Every one who does poor work in school or at home, or who is idle and cowardly and not to be depended upon, is getting ready to be a drag on the country instead of a help.

Which kind do you want to be?

Every time we see the flag it should remind us of what we should do for it and the country it stands for, as well as of what it does for us.

FLAG SALUTE

The flag is displayed at the teacher's desk The piano, or bugle, or bell, strikes a quick note; every scholar rises and turns his face toward the flag, hands at the side; another note is sounded; every scholar gives the flag the military salute,—right hand lifted, palm outward, to a line with the forehead and close to it.

Standing thus, all begin to repeat together: "I pledge allegiance to my flag and the republic for which it stands: one nation indivisible, with liberty and justice for all."

At the words, "to my flag," the right hand is extended gracefully, palm upward, toward the flag, and remains in this gesture till the end of the affirmation: whereupon all hands immediately drop to the side. Then, still standing, as the instrument strikes a chord, all begin at once some patriotic song.—FRANCIS BELLAMY.

SALUTING THE FLAG

Saluting the flag means showing it respect. It is "wishing health," as the Latin word signifies. Flag salutes are fired only between sunrise and sunset (never on Sundays), and require the National flag to be displayed. Never is the flag of a military post dipped for a compliment or salute. The National salute gives one gun for each state, It is fired July 4, at noon, at each military post or camp with artillery. The International salute consists of twenty-one guns given to the flag of another nation.—*Educational Independent.*

THE MISSION OF THE FLAG

BY EDITH H. KINNEY

THE last bell rings, and in they pour
Like nations through our country's door.

Stand here and watch them as they pass,
While I present to you the class!

These days of pedagogics, ripe,
We teachers learn to seek the type.

First comes young Timothy, the keen,
Whose patron saint doth claim the green.

Next Gretchen, with her flaxen hair,
And quaintly stolid German air.

Small Levi, who will not disdain
The crudest bargain, fraught with gain.

Antonio, whose dusky eyes
Seem ardent as Italian skies.

Petite Corinne, with piquant face,
Fair France in her unconscious grace.

Yet from each eye, or dark or blue,
A patriot's eye looks out at you.

And mark how true their voices ring
When of the Stars and Stripes they sing!

O, whisper not of race or clan
To our staunch young American.

That flag above us in the sun
Hath merged the many into one.

School Physiology Journal

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"He fails who climbs to power and place
Up the pathway of disgrace.
He fails not who makes truth his cause.
Nor bends to win the crowd's applause."

A CAMPAIGN OF EDUCATION

AN exchange says:

"At the meeting of the American Wine-Growers' Association in New York City there were representatives of interests aggregating $100,000,000 . . . . . One of the officers of the association announced:

" 'We expect to begin a campaign of education. Our own people do not know as much about their own domestic wines as they should, and besides they have not yet learned how to drink wines,—that is, to drink light wines every day at meals, as millions of people do in Italy, France, and other European countries. The consumption of wines in this country should be three or four times what it is today, which is only half a gallon per capita per annum. In Italy and France it is more than thirty-four gallons per person. We believe that a campaign of wine education would result in greater temperance, and be productive of social reform.'"

Why not produce non-alcoholic wine, not by the addition of chemicals, but by so sealing the boiling grape juice from the air as to prevent fermentation and the production of alcohol which is the dangerous property of wine? The history of the result of wine-drinking in Europe is the story of individual and national decay. In two provinces alone of wine-drinking France, the amount of crime has doubled in the last thirty years, suicide in the last half century has more than quadrupled, and the physique of the men is degenerating at the same time.

If we would not have the conditions of physical, mental, and moral degeneracy reproduced in our country that have followed wine-drinking in France, Italy and other countries of Europe, this Wine Association's campaign of education must be met with another, reaching all the people, and showing that there is no safety in drinking wine either with or without meals, because of the power of the alcohol in wine to create the uncontrollable appetite for more. Scientific temperance instruction in the schools and the Voters' Information Bureau are powerful factors in such enlightenment of the people.

TEMPERANCE AND HYGIENE TEACHING IN SCHOOLS

IN a recent issue of the London *Standard*, Lady Falmouth writes:

"During a visit to United States of America last autumn, so greatly was I impressed by the sobriety of the American people and the total absence of the poor drink-sodden beings that are, alas, too frequently seen in England, no matter what town one is passing through, that I felt obliged to try to discover if there was not a cause for this sobriety. I could not well imagine, with the very mixed population of the United States, that this could all be due to home influence or religious teaching.

"On inquiring of the Director of the Massachusetts Educational Exhibit at the World's Fair in St. Louis whether the children of the public schools received any teaching in hygiene and temperance, he informed me that they did, and referred me to the publishers, Messrs. Ginn & Co., and the American Book Company, who very courteously sent me all the authorized text-books used in the public schools to instruct the children in the different grades of physiology. These text-books have all been passed and signed by the Advisory Board for the United States, and some of them have been in use more than twenty years.

"On my return to England, I heard that some months ago an influential body of medical men presented a petition to the Board of Education, asking that hygiene and temperance should be placed among the compulsory subjects of education, and that the matter is under consideration.

"No doubt it will remain under consideration for some time to come, unless we, as a nation, demand this instruction for the children of our primary schools. Those of us who realize that 'correct action is dependent upon correct thinking' recognize that 'this study must be begun in those early school years in which the habits of life are formed,' since 'the desired object of this study of physiology is to teach young folks to understand thoroughly the simple laws of life in order to apply them intelligently to their daily living.

"When one is politely told by a casual acquaintance in America that the drink question is a very serious one in England, one does not

like to hear it, true though it be; it hurts to feel that this evidently makes such a strong impression on the strangers who visit our country.

"Surely, if we endeavor to teach the young in our schools the fundamental truths of physiology which includes hygiene, the proper uses of alcohol, tobacco, etc., we shall at least feel that we have not left the rising generation in ignorance of what is before it, but have equipped it for its struggle through life. Through these means also, we shall have done something towards tackling this big question by implanting certain truths in the minds of the majority of our children.

"America, with all the vigor of a young, free nation, considers it wise to bring up her youth prepared for the life before them. Can not we, the old country, do likewise? Let us not forget that the young folk of this country are said to have greater difficulties to contend against, such as a damp, raw climate, and an unhealthful environment which often aggravates hereditary tendencies. It behooves us, therefore, all the more to train up the child in the way he should go, rather than leave him to take his chance, since the child is the father of the man.

"To sum up: This elementary teaching of physiology that is so needed by the young of our nation is what is now given in our Colonies, also in Sweden, Denmark, Holland, etc., besides the United States, and is merely what the ratepayers have a right to demand and expect."

Lady Falmouth's letter was immediately followed by a similar appeal from Sir W. H. Broadbent, one of the committee of physicians petitioning for universal compulsory teaching of hygiene and temperance in British elementary schools.

He says:

"The question opened by Lady Falmouth as a result of her visit to the United States is one of great importance. She was struck by the greater apparent sobriety of the working classes there, as compared with what she had observed in different parts of this country, and on inquiry was led to attribute the superiority of the American workingman in this respect to the teaching of hygiene and temperance in the elementary schools.

"It is possible that her ladyship may have overrated the effects of education in producing the general sobriety of the working classes in America, and that the restrictions with which the sale of alcoholic drinks is surrounded may contribute to this. The fact remains, however, that in England, an inordinate proportion of men's wages is expended on beer and spirits, partly under the fatally mistaken idea that stimulants are necessary and helpful, but mainly as mere self-indulgence and in ignorance of the injurious effects. What is spent on drink is withdrawn from the fund which ought to provide food, clothing, warmth and comfort for the wife and children.

"With this there is absolute ignorance of the nutritive value of different kinds of food, of economical methods of preparing it, of rendering it appetizing and digestible by appropriate cooking, and of hygiene generally. If temperance and hygiene are to be learnt, the only way is to teach them at school. The medical profession has long recognized this, and, as Lady Falmouth says, a petition was signed by more than fifteen thousand medical men in favor of such teaching being made obligatory in all schools, and a deputation waited upon Lord Londonderry to present it. The representations then made were favorably received by Lord Londonderry, who expressed his entire sympathy with the object of the memorialists.

"Since that time a scheme has been worked out by a committee for introducing teaching in temperance and hygiene into the school curriculum without adding to the hours of work (one lesson a week only being necessary), and without serious interference with other subjects, and a schedule of topics has been drawn up suited to the intelligence of children of different ages from seven to fourteen. This schedule has been sent to all the important educational authorities, now no longer School Boards, but Departments of County Councils, and is engaging the attention of most of them. Only one flat refusal to consider the question has been received so far as I know. Edinburgh, to the honor of her authorities, was in advance of the medical profession, and had already a plan for such teaching in operation.

"The direct benefit of instruction on the preservation of health can not fail to be very great, but there will be other indirect advantages. It will be more genuine education, in the true sense of the word, than much of what is taught in elementary schools. Object lessons are proverbially the best for awakening interest and training the faculty of observation, and for the first steps also of reason. The children will have themselves, their food and clothing, and games as object lessons, and every item of information will be both useful and interesting.

"Lady Falmouth says that the rate payers have a right to demand and expect the elementary teaching of hygiene which is given in Sweden, Denmark, the United States and our Colonies. But will they demand it? It is the apathy and ignorance of the general public which make reform so slow and difficult. A sensational or sentimental appeal will have a spasmodic suc-

cess in drawing money from those who give for the gratification or relief of their own feelings, while sustained efforts for the betterment of the poorer classes meet with little encouragement. It is proposed to provide school children with free meals at the expense of the ratepayers, thus destroying the wholesome principle of parental responsibility, and liberating more of the wages for self-indulgence, while doing away with any encouragement, or even opportunity, to learn the proper preparation of food in the home.

"It remains to be seen whether the attempt to strike at the root of the ignorance, from which springs so much physical, mental, and moral deterioration, will receive the support which will enable Lord Londonderry, of whose good will we are assured, to press the teaching of hygiene and temperance on the bodies charged with the education of the children."

THE IDEAL CITY

BY CHARLES M. SHELDON

WHAT makes a city great and strong?
Not architecture's graceful strength,
Not factories' extended length,
But men who see the civic wrong,
And give their lives to make it right,
And turn its darkness into light.

What makes a city full of power?
Not wealth's display nor titled fame,
Not fashion's loudly boasted claim
But women rich in virtue's dower,
Whose homes, though humble, still are great,
Because of service to the State.

What makes a city men can love?
Not things that charm the outward sense,
Not gross display of opulence,
But right, that wrong can not remove,
And truth, that faces civic fraud,
And smites it in the name of God.

This is a city that shall stand,
A Light upon a nation's hill;
A Voice that evil can not still,

A source of blessing to the land;
Its strength, not brick, nor stone, nor wood,
But Justice, Love, and Brotherhood.

"Still through our paltry stir and strife
Glows down the wished Ideal,
And Longing moulds in clay what Life
Carves in the marble real.
"To let the new life in we know
Desire must ope the portal;
Perhaps the longing to be so
Helps make the soul immortal."

Tommy: "Grandpa, do you remember Daniel Webster?"

Grandpa: "O, yes, my child, I remember him very distinctly."

A pause.

"Grandpa, you are a good deal older than I am, aren't you?"

"Yes, indeed."

"How much older must I grow to remember George Washington?"—*Texas Siftings.*

"Dear little Cupid stops in on his way
With missives of love on St. Valentine's day."

The one tremendous fact about universal suffrage is the imposition of a special duty—a duty that does not end with the individual's vote, but which demands all his available energy in the preservation of the State.

Universal suffrage requires the single voter to be not only a good citizen in the intelligence and conscientiousness of his ballot, but a good citizen militant; he must by precept and example spread abroad the principles of honest government. Those who are not with us are against us. In the effort to rescue American cities, or to keep them rescued from corruption, every honest man must lend a hand the year round.—The *Century.*

What sculpture is to the block of marble, education is to the human soul.—ADDISON.

Grammar Lessons

INTERMEDIATE WORK

FAIR PLAY

A LITTLE more than a year ago, when foreign immigration to this country was at flood tide, a representative of one of the leading New York dailies made a careful study of the motives which are bringing these multitudes to our shores.

In almost every case the answer was the same in substance, however crudely expressed. Each one wanted a better chance for himself or for his children than he could have at home, and for the sake of this chance he was willing to suffer any temporary discomfort that might be necessary.

President Roosevelt's declaration that it is the purpose of this government to deal fairly and squarely with every man, whatever his occupation or social standing or nationality, but expresses anew what America has stood for from the beginning,—an equal chance for all.

No two persons ever have made or ever will make the same use of the same opportunities, and no government can enable them to do so. But all must have the chance to do as well as they can for themselves, and it is the mission of the school and of other educative influences to increase self-activity and self-help while at the same time teaching due regard for the rights of others.

Children are natural lovers of fair play, and are quick to see and disapprove of cheating whether on the playground or elsewhere. It is entirely in the power of the school so to foster and develop this instinctive feeling that injustice and political corruption shall be equally aphorrent to them after they have reached manhood and womanhood.

RIGHTS OF THE INDIVIDUAL

The child who oversteps the rights of others seldom has a clear idea of what his own rights really are. Give him this knowledge, and his instinctive love of fair play will almost surely lead him to accord the same privileges to others that he in turn claims from them.

Explain what a right is, then put on the blackboard the question, What are our own rights? asking each one in the class to bring as full an answer as he can to the next recitation. Such answers may be written out beforehand to be read aloud in class by the pupils, or handed to the teacher to examine and make selections for reading.

While some in the class will not know what their own rights are, others will claim as such what manifestly belong to some one else. The class talk which follows the reading of the various answers should clear up both these points and help to prevent such mistakes in future.

Read the preamble to the Declaration of Independence and announce that this will be taken as the referee in case any dispute arises as to what one's rights really are.

What is the first individual right here named? What are the things one needs to keep him alive?

What is the second individual right named in the preamble? What is meant by liberty?

Have one or all in the class look up the word in the dictionary and find the meaning that applies in this case. Does it always mean permission to do just as one pleases? Why not?

Let the pupils tell some of the ways in which they have liberty at home, in school, in other places. In what ways are they deprived of liberty in each of these cases? When is this right and fair?

Tell the pupils that people who live with others can never do exactly as they please. They can have liberty for themselves only as this does not interfere with the rights of any one else, because in a country like ours everybody is entitled to an equal chance.

What is the third individual right stated in the preamble? What are some of the things that make us happy? We have a right to all such things, if they are really good for us, and if they do not interfere with the happiness of any one else.

Some boys think they get happiness from smoking cigarettes; but even if they do, they have no right to such happiness because it would almost surely be gained at the expense of their own health, if not the happiness of their mothers and friends.

Some girls think they get happiness from eating candy whenever they like, but this too is a form of happiness it is not always right for them to have. Why not?

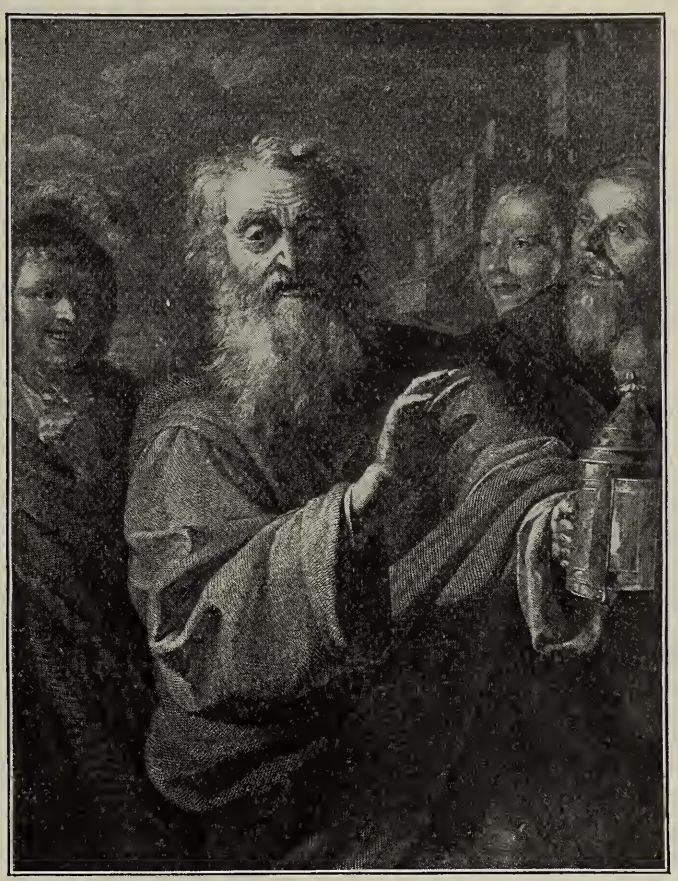
Ask the class to give examples of happiness to which each of us has a right, and also instances of so-called happiness to which for some good reason we have no right.

THE RIGHTS OF OTHERS

We have found that in our country at least, nobody has any right to take unfair advantage of others because here all have equal rights. We have learned what some of our own rights are, now we must think about those of other people.

What are some of the rights of your playmates? of your teachers? your parents? of old people? of little children? of strangers?

After the class are able to answer such questions as these, and understand in some degree why everybody else has rights as well as themselves, explain how it is that the rights of others sometimes depend on us and the way in which we behave toward them.



"For what are you looking?"
"For an honest man."

For example, those who are with us have a right to be happy, but if we are cross or unkind or selfish they will be made unhappy instead. What are some of the things we can do in order that those about us may enjoy this right that belongs to them?

Name other things which we must refrain from doing, because these would interfere with the rights of some one else. How does impoliteness trespass upon the rights of people? How does cruelty? anger? envy? hate? dishonesty? untruthfulness? cheating?

Sometimes we hear a smoker say that he has a perfect right to use tobacco if he wants to, because he is hurting no one but himself. Is this true? Why has no one a right to injure himself?

Let the class name again some of the ways in which the tobacco user interferes with his own rights. Then tell how he deprives others of rights which belong to them,—the people in his own home, and those he meets on the street and in public places, all of whom must breathe over again the air he has polluted with tobacco smoke.

Show how the same thing may be true of one who begins to drink wine, or beer, or any liquor that has alcohol in it. No one has the right to injure his own health or ability, or to wreck the lives of others, and no one can tell beforehand whether he will seem to escape these consequences, or whether the same fate will be his that has overtaken thousands of others who likewise thought they could take alcoholic drinks or let them alone as they chose.

Nobody has the right to take such a risk on his own account, or for the sake of others.

THE RIGHTS OF THE STATE

It is very natural to think of our country, just as we are apt to do of our parents, as existing for our benefit, to take care of us and protect us, give us schools and roads and all kinds of public improvements. But the State has rights of its own, just as parents have rights which belong to them.

Think what we mean when we speak of our country. Do we mean only its great plains and mountains, and lakes and rivers? Or the wealth of its farms, and factories, and mines? Or do we mean even more the people who have developed all these splendid resources and have made it a prosperous land instead of the wilderness it was at first?

Whenever we speak of the rights of the State, then, we mean our own rights and the rights of all other citizens of this country taken together, or the rights of society.

We expect the State to take care of us. To do this it must have money, so every citizen must pay his part of the taxes. If he does not do this he is cheating the State just that much of one of its rights.

The State must have officers to make laws for the safety and welfare of all, officers to see that these laws are obeyed, and officers to decide who and what is right in case any dispute arises between citizens.

Many of these officers are elected directly by the citizens of the State, and others are elected by them through representatives whom they

have previously elected. If every citizen who can do so does not go to the polls and vote, he is cheating the State out of another of its rights, that of faithful service.

The State has a right to expect honesty and integrity in those who are its rulers. The old philosopher, Diogenes, wandered about the streets of Corinth with a lighted lantern in the daytime looking for an honest man.* People laughed at the spectacle, but the search is still going on. The State flashes the light of publicity on every man and woman in its service, testing each to see if it can find honesty and faithfulness to duty. Whenever it is successful in the quest, it rewards the trustworthy citizen by a call to higher service.

DUTIES OF THE GOOD CITIZEN

The good citizen should know the laws and institutions of his town; should pay his taxes cheerfully, promptly, and completely; should attend caucuses and help steer good men in and bad men out of candidacies; if sought for an office he should accept it however humble.

He should speak out when things go wrong. He should adorn his home with flowers and shrubs, keep his paths shoveled and sanded when icy.—G. Stanley Hall.

We glory in our American civilization because, more than in any other country on the face of the earth, men may here rise, give scope to hope, foster ambitions and aspirations, and encourage all rational expectations.

Garfield said that our American life differs from European and Asiatic civilization in this, that they, like the strata of the earth, lie in layers that are comparatively fixed and impenetrable, whereas American civilization is like the water of the sea—the drop that touches the sandy bottom today may sparkle from the crest of the topmost wave tomorrow.

He who is today at the bottom of society may, under the encouragement of our republican institutions and freedom, rise until he occupies the highest position that the people can bestow. —Bishop Foster.

MAKING CITIZENS

From the common school of the country district to the highest university in the land, the fundamental idea of American education is to make American citizens.

There is no thought of making soldiers or officeholders or merchants or traders or inventors: make citizens first, then let each young American choose for himself the line of life he deems best suited to his capacity.

After all, the best method of judging of any system of education is in its results, and without saying a word in disparagement of the people of any other nation, it may be said that in every essential quality the American citizen has demonstrated the efficiency of his training.—St. Louis *Globe Democrat.*

THE FUTURE CONQUERORS

BY JESSIE FORSYTH

Hear the soft patter of little feet,
  Keeping their step in the march of time;
List to the voices of childhood sweet
  Singing the songs of our cause sublime.
Steady each footfall, though light and free,
  Faltering not as they onward press;
Cheering the strains of the melody,
  Telling of peace and of righteousness.

Gaze with a vision divinely lent,
  Promise of good in the future trace;
These shall arise when our day is spent,
  Women and men of a nobler race.
All we have missed is their heritage,
  All we have failed of is their's to win;
Their's the new era, the golden age,
  Their's is the conquest of wrong and sin.

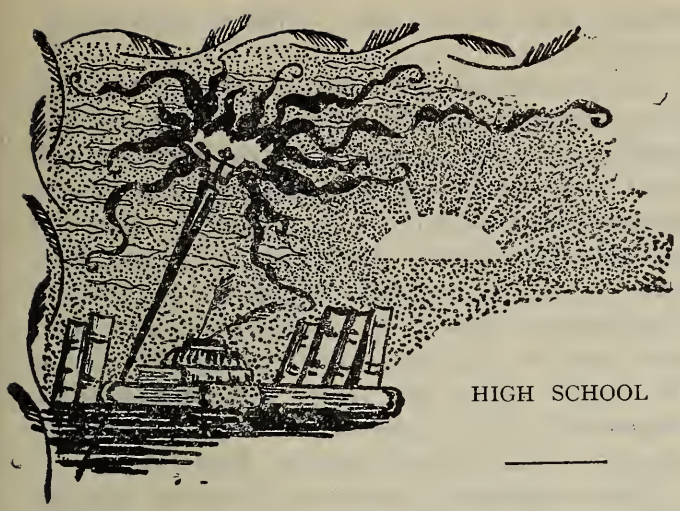
We will not envy their brighter day,
  So that to them time the victory brings;
For not ignoble the part we play,
  We are kingmakers if they are kings.
Smooth then the way for the little feet,
  Teach the right note to each fresh young voice,
Throw wide the portals, their coming greet,
  And in their triumph to be, rejoice.

To prepare us for complete living is the function which education has to discharge; aud the only rational mode of judging of any educational course is to judge in what degree it discharges such functions—Herbert Spencer.

A child should feel, as he enters the schoolroom, "I shall be pointed towards the highest and best." Education does not consist in teaching people to know what they do not know; it means teaching them to behave as they do not behave.—Ruskin.

We can not help rejoicing in the increasing prominence of the idea that every being whom the world contains has his true place written in the very make of his nature, and that to find that place and make him fit to fill it is the duty of his educators in all their various regards.—Phillips Brooks.

*See illustration on page 91



HIGH SCHOOL

OUR RULERS

PEOPLE can be found even yet who think that citizens are born, not made, and that they first enter upon the rights and privileges of this estate at twenty-one.

The real student of popular government makes no such mistake. He knows that true citizenship is as much the result of growth as are manhood and womanhood. It needs the same fostering care and the same opportunity to develop by actual practice.

In Chicago not long since, an eight year old child was found scrubbing the fence in her back yard. She had found out in her civics class at school that one of the duties of a good citizen is to keep his city clean, and she was at work on her part.

It is not too soon to begin with the earliest years of the school course to develop an interest in public affairs. Our future rulers are here before us waiting for their first lessons in statecraft, and it is in our power to determine the character of their rule. Lack of training has made politics unclean in the past. Knowledge of the rights and duties of citizenship, and actual participation in the government of the school and the home will develop a different order of rulers in the State to whom public office will indeed be a public trust.

With advanced pupils it is well to make at first a general study of

THE COUNTRY THEY ARE TO GOVERN

Start with a comparison of governments. What is the difference between the way this country is ruled and Russia, Japan, England, France, Turkey, and the South American republics? The time which can be given to such study will necessarily determine the thoroughness with which this topic can be taken up. For the object sought it is not needful to go into fine details, but rather to gain a general idea of the characteristic features of government in these different countries and find how each differs from that of the United States.

Bring out the best features in each and also the worst. Which, if any, could be adopted here with advantage? Which would not work so well here as in the country in which it is found? Give reasons.

Call attention to the co-ordinate division of power in this country among the executive, legislative, and judicial branches. Outline the most important duties of each. Distinguish between the government of one of our states and that of the nation as a whole. How is your own ward, city, town, or county governed? How do you think its government could be improved? What could you do as a voting citizen to improve it? What can you do now towards this end?

THE CHARACTER OF ITS RULERS

If we were to select the rulers for our country, what are the qualifications we should want them to have? Put on the board the names of three or four of the best world rulers and ask the class to mention the qualities in each which made him a successful ruler.

In the first place they will find that each of them knew what his duties were, and in the second place that he had fitted himself to perform them honestly and unselfishly.

Every citizen in the United States, even the humblest, can do the same. What does he need to know? Everything that belongs to the public service, or as much of it as he can. Like the little Chicago girl, we can all keep our own homes clean. This leads to study of the best ways of disposing of waste; to pure drinking water and pure foods and how to get them; to clean streets and beautiful surroundings.

How can he fit himself to rule wisely in this land where all have a chance to rule? He does not need to acquire a new set of virtues. They are the same for the individual and for the citizen. The boy and girl who have learned how to rule themselves in the home and the school will be equally successful as rulers of men in the world outside.

WASHINGTON'S BIRTHDAY

'Tis splendid to live so grandly,
That long after you are gone,
The things you did are remembered,
And recounted under thesun;
To live so bravely and purely,
That a nation stops on its way,
And once a year with banner and drum,
Keeps its thoughts of your natal day.

—*Margaret Sangster.*

GREAT BRITAIN JOINS HANDS WITH AMERICA

IN PROVIDING FOR A SOUND NATIONAL PHYSIQUE

NEVER was there a plan proposed for the enlightenment or betterment of humanity which somebody did not oppose. If the plan is unwise, it perishes at the hands of such opposition. If, on the contrary, it is a real progress that meets a need, opposition by the futility of its arguments only furthers its advance.

This is markedly illustrated in the case of the compulsory public school study of the physiological reasons for obeying the laws of health, including those relating to abstinence from alcoholic drinks and other narcotics. Disinterested opposition to teaching every child how and why he should take such care of his body, in which he must live as long as he stays in this world, that he may lead a happy and useful life can only be accounted for by the existence of born obstructionists. Nevertheless, the compulsory study of this subject in the schools of every state in this country has gone steadily on until its results, in the increased sobriety, strength, and efficiency of the American people, have attracted the attention of students of social and national problems in other nations, and these are now urgently recommending that the American system of education in hygiene and temperance be extended to their own countries.

In 1903, public attention in England was called to popular ignorance of the laws of health and the nature and effects of alcoholic drinks and other narcotics as a cause of the evils of intemperance. Then came the report of the Royal Commission of Inquiry concerning the causes of degeneracy, which said :

"The Committee believe that more may be done to check the degeneration resulting from drink by bringing home to men and women the fatal effects of alcohol on physical efficiency, than by expatiating on the moral wickedness of drinking." As a result, a committee was formed, in 1904, of thirty one leading British physicians, including presidents of Royal Colleges and the president of the British Medical Association, which framed and issued a petition for the compulsory public school study of hygiene and temperance. This was signed by upwards of 15,000 physicians, practically the entire medical profession of England, Scotland, Ireland and Wales.

A London paper says of this petition, "The response was very striking. Eight thousand signatures were received by return of post and had to be conveyed to the receiving office by a special staff of postmen. Others rapidly followed."

Thus equipped, this body of experts, Sir William Broadbent, chairman, representing the medical profession of the United Kingdom, began the study of the different methods of instruction in this subject employed in America and other countries. November 25, 1904, they issued a circular entitled "*Suggested Courses of Teaching in Hygiene and Temperance for Boys and Girls in the Public Elementary Schools of the United Kingdom*, based upon the scheme prepared by Mrs. Mary H. Hunt for use in the schools of the United States of America."

These suggested Courses of Teaching for the public schools of the United Kingdom are in reality our American Course of Study in physiology and hygiene for primary and grammar grades almost verbatim.

The action of the committee was widely approved. The *Manchester* (Eng.) *Guardian* of Nov. 29, said :

"The specimen Syllabus is based on a scheme drawn up for use in the United States schools, and is full of sound learning and splendid common sense. When one sees the proposed teaching set out under the several heads and graduated according to the age of the pupils, the knowledge seems so absolutely indispensable that one wonders how it has escaped being taught so long."

Sir W. H. Broadbent, M. D., F. R. S., stated in behalf of the British Medical Committee, in the letter to Education Committees accompanying the Course of Study : "We desire to urge respectfully that the disastrous effects produced by alcohol on the nation require that the subject of temperance be given a prominent position in any syllabus of teaching in hygiene and elementary physiology."

Sir Victor Horsley, F. R. S., F. R. C. S., said at a London public meeting, Nov. 2, 1904 : "We ask only that the laws of health coupled with the subject of temperance should be regarded as on all fours with a subject like history, and if there is to be a reorganization of the time table it could be perfectly well done by teaching a little less history.

"We do not want any indirect treatment of this subject, for that is not the way to approach one of the great subjects of the nation.

"The medical profession has adopted in very large measure the American system and is united on this line, namely, that there must be this teaching, that every child ought to receive it, and therefore that it must be of the nature of compulsory teaching."

The committee which has done this great service for British schools is composed of some

of the most eminent scholars and investigators of the English speaking world. Among them are Sir Thomas Barlow, Sir Lauder Brunton, Sir Victor Horsley, Sir William Macewen, Sir Henry Thompson, Professor G. Sims Woodhead, and others as distinguished. They have selected the same topics that our Course of Study calls for, and have spe ified that the study must be a progressive branch beginning with the lowest grades, and must be taught with text-books in the hands of pupils able to read, as we also specify.

Such action should silence those superficial critics who are not familiar enough with the subject to know that the great truths concerning alcoholic drinks and other narcotics which are being taught the children of America are the verities of science, and should remind them that the spoken word escapes while the written word abides, and that as the printed page helps to fasten truth in the mind it is therefore necessary in this study for children who are able to read.

"Tis splendid to live so grandly, that long after you are gone.
The things you did are remembered, and recounted under the sun."

Great Britain is utilizing for the production of a sound-bodied, imperial race these great essentials which have already been wrought out in America with splendid results.

THE DESTINY OF THE REPUBLIC

Ah! not in placid arrogance of Pride,
Nor armaments and soldiery of War,
Nor island-gems that sparkle on the sea,
Nor votive temples, beautiful with art,

But in the scholar's meditative mind,
The honest, rugged arms of laborers,
The destiny of our republic lies!
And so may we acquit ourselves as men,
Full worthy of our lofty heritage!

Conserving it in its integrity,
Unstained by enormities of kings;
Dispensing it,—in wise benevolence,—
Until, from all the sorrow-stricken earth,
Instead of tears, ascends the final song!

—Ernest Neal Lyon

THE NEW DECLARATION OF INDEPENDENCE

Many readers of the Journal are aware that the leading article of our January issue bearing the above title was presented as a Demonstration Exercise at the last annual meeting of the National Woman's Christian Temperance Union, held in Philadelphia, Pa.

The success of this Exercise was marked, surpassing even that of the Flag Demonstration given at Portland two years ago. So great has been the demand for its reproduction elsewhere, that the Department of Scientific Temperance has issued the progam in leaflet form and is prepared to send it with the loan of the stereopticon slides and also the Flag Exercise at the low price of $1.00 and express charges, which will necessarily vary somewhat with the distance.

The two exercises furnish ample material for a complete evening's entertainment, and one of the most unique and enjoyable kind. It is hoped that unions as well as schools will make large use of this program to show the public what is being done by Scientific Temperance for the country and the world, and to give them glimpses of the headquarters of this movement and the workers there employed.

THE OBJECT AND AIM OF EDUCATION

No true and permanent fame can be founded except in labors which promote the happiness of mankind.—Charles Sumner.

Education is leading human minds and souls to what is right and best and making what is best out of them; these both go together.—Ruskin.

BOOK NOTICES

Songs of the Flag and Nation, By Walter Howe Jones. Hinds, Noble & Eldredge, New York.

There is place in every schoolroom for a book of patriotic songs, set to good music that is not too ambitious in character, but such as boys and girls will love to sing. In certain respects, "Songs of the Flag and Nation" is one of the best collections we have seen. It contains much new material, the result in part of a prize competition inaugurated by the publishers, and many old favorites. There are selections for special holidays, and a goodly number of solos and part songs. Typography and press work are clear and attractive, and the book is a convenient size to handle.

The Art of Right Living, By Ellen H. Richards. 50 cents net. Whitcomb & Barrows, Boston.

Never was there a time when conditions of living made it harder to retain health, strength and efficiency than now. But, fortunately, helps to right living and knowledge of how this is to be had and maintained have increased proportionately fast. With every child in the public schools learning, as is now possible, the elements of hygiene and temperance, there is good reason to believe that the physique of the nation will ultimately keep pace with its material and intellectual progress. Mrs. Richard's little book deals with such practical topics as Food, Sleep, Exercise, Work and Amusements, and is a helpful contribution to the already long list of books that teach how to live.

First Lessons in Food and Diet, By Ellen H. Richards. 30 cents net. Whitcomb & Barrows, Boston.

The class that follows out the directions given in this book can hardly fail to get a clear idea of what food does for us, the principal sources from which it is derived, and the best ways of preparing it for the table. Emphasis is laid on the use of simple foods and such as may be provided at a low cost. A number of typical menus are included. A valuable feature of the book is that the child is told what not to eat as as well as what to choose as food, and given convincing reasons for avoiding unwholesome substances. A good index and titles for all the chapters would make the book still more available for use.

Rational Home Gymnastics, By Hartvig Nissen. $1.00. E. H. Bacon & Co., Boston.

While the exercises prescribed in this book are primarily for invalids or those in delicate health, there are few healthy persons who would not find the different limb and body movements useful. The directions are beautifully clear in themselves, besides being copiously illustrated from excellent photographs. Many health points are included, and the "why and how" have not been forgotten. The official positions held by the author in Harvard, Johns Hopkins, and elsewhere as director of physical training give him the right to speak with authority and add weight to his statements.

The Body Beautiful, By Nannette Magruder Pratt. The Baker & Taylor Co., New York.

An eminently practical and highly interesting little book. One can see between the lines on almost every page the enthusiastic and engaging personality of the writer. Her *naiveté* is almost childlike at times, but is after all rather winning. The book contains numerous very practical and sensible diet lists, rules and directions for home exercises adapted to specific purposes, and is well worth spending a little time on, in spite of its absurd lack of literary finish and logical arrangement. It is amply illustrated by fine half-tones.

How to Care for the Hair at All Times, By Juliet Marion Lee. Price $1.00. J. M. Lee Co., New York.

Miss Lee's ideas on hair culture which she elaborates in her book are certainly in line with modern notions of health, hygiene, and physical culture. The book contains some practical advice for home care of the hair in winter, at the seashore, and under certain diseased conditions. She explains and reiterates that perfect cleanliness and exercise (massage) are as essential to the health of the scalp as to the body in general.

PHYSIOLOGY TOPICS FOR FEBRUARY

Primary—Parts of the body used in Play and Work: Arms, Hands, Fingers. Sense of Touch. The Skin and Cleanliness. How the Body is Controlled: Brain and Nerves.

Intermediate—Needs of the Body. Why not Alcoholic drinks? The Body's need of a Muscular System. The Excretory System of the Body.

Advanced—Body Training and Care. The Process of Respiration. Fermentation. Bacteria. Narcotics.

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Anatomy, Physiology and Hygiene For High Schools. By Henry F. Hewes, M. D., Instructor in Physiological and Clinical Chemistry, Harvard University Medical School. **Price, $1.00**

With experimental work this book gives a connected outline of the processes which accomplish the maintenance of life in the body and of the rules of hygiene which it is necessary to follow in order to facilitate their harmonious action. Chapters are included upon the nature and action of bacteria in connection with infectious diseases, and also upon physical culture and gymnasium exercises.

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The School Physiology Journal

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VOL. XIV. NO. 7
MARCH, 1905

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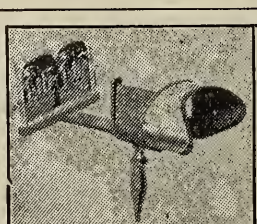

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School Physiology Journal

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INSPIRATION

OPEN the door, let in the sun;
He hath a smile for every one:
He hath made of the raindrops gold and gems,
He may change our tears to diadems—
Open the door!

Open the door of the soul; let in
Strong, pure thoughts which will banish sin:
They will grow and bloom with a grace divine,
And their fruit shall be sweeter than that of the vine—
Open the door!

Open the door of the heart; let in
Sympathy sweet for stranger and kin:
It will make the halls of the heart so fair
That angels may enter unaware—
Open the door!

—*British Weekly.*

THE PASSING OF ALCOHOL

BY MARY H. HUNT

A CRISIS like the fall of the Roman Empire, the Reformation in Germany under Luther, the American Revolution, the Revolution in France, or our own Civil War bursts upon a nation changing all its future. The casual on-looker is bewildered at the unexpected that seems unaccountable. But the student who looks deeper sees that such crises are the inevitable result of causes that have long been at work, and that the ensuing outbreak could no more be prevented than the water of Niagara Falls could be suspended half way between the rocky brink over which it plunges and the abyss below.

GREAT MOVEMENTS IN HISTORY

The student of the philosophy of history sees running through the story of the ages a force in the affairs of men that makes for righteousness, and that is ever at work limiting the progress of evil. That force is the fact that sin against God and man manifested in the myriad forms of organized selfishness is self-destructive. In that fact lies the hope of the world.

When the people of a nation have sunk beyond the possibility of restoration, as had old Rome, some besom of destruction coming in the natural order of things, as did the Huns, Goths and Vandals, sweeps the degenerates off the pages of history. If it is the governing classes of church or state who are corrupt while the people long for better things, a God-taught Luther shakes the world and dethrones base hierarchies with the heaven-sent truth that man is justified by faith in God's promised forgiveness to the penitent, not by the paying of penance.

The men and women of the Mayflower braved the wilds of an unknown continent for the sake of civil as well as religious liberty.

It was inevitable that their descendants should teach the world that government exists for the people, and that a day of reckoning is sure to come for the power that reverses this fundamental principle by demanding that the people shall exist for government.

The French Revolution is the story of a people gone mad with suffering and destroying their rulers because these demanded that a starving, ragged nation should pay the bills of sumptuously fed royalty, robed in purple and fine linen.

Our Civil War was the revolt of the Christian and moral sense of this nation against human chattel slavery. Slavery stood doomed before that force in the affairs of men which makes for righteousness between man and man, irrespective of complexion. That war had to come. The civilization of that time had not produced a Hague Tribunal. Slavery had to go. Its time was up on the calendar of the centuries and only by force, as society existed at that time, could it be abolished, and even thus not until "every drop of blood drawn by the lash had been expiated by one drawn by the sword, and every dollar of unrequited toil of the bondman had been matched by others taken from the national treasury to protect the life of the nation."

THE SLAVERY OF ALCOHOL

From all this shall we learn no lesson concerning the slavery of alcohol? The victims that it has done to death outnumber those of war, famine, and pestilence.

The sufferers from this trinity of evil resist their bondage, and escape as quickly as they can from the prisonhouses of war, hunger, and disease. But the slaves of alcohol love and cling to their enslaver. The harder the bondage, the closer the sot cleaves to his bottle and to the man that will fill it for him again.

The strength and defenses of a nation are not so much its armies and navies as the character of its men and women. Famine and pestilence, and perhaps war, may not injure character, this priceless possession of a people. But so malign is the effect of alcohol, and to such

an extent does it stultify and degrade physical, mental, and moral ability, while stimulating the worst human passions, that Dr. B. W. Richardson, after an exhaustive study of its nature and effects, exclaimed, "Alcohol is Satan in solution."

THE DRUNKARD'S WIFE

Think of having to live with a man under the permanent influence of "Satan in solution", not for a day or a year, but of being inexorably tied to him for long years, while you see his character, once your ideal of manly excellence, grow more and more degraded, and you and yours become the victims of his brutal selfishness that sacrifices every obligation to his passion for drink, day after day and year after year, till death releases you or sends him to a grave of shame. Such is the horrible fate of the drunkard's wife, an unwritten tragedy, the thousandth part of which can never be told.

If you would escape it, young ladies, say no, emphatically *no* to the young man who is not a total abstainer.

But Harry has a strong will and great self-control, you say. That may be, but the most fiendish thing about alcohol is its power when drunk, even in small quantities, to create an imperious craving for more, and to weaken the power of the will with which to resist that craving, and thus to destroy self-control.

To bank your future on the expectation that the young man you love will exercise self-control in the use of a substance whose nature it is to destroy self-control is to run an awful risk. Only by playing a game of chance with his life and yours, which is a dangerous experiment, can the limit of his power of resistance to alcohol be determined. When this limit is passed, there is nothing for you but the agony of a drunkard's wife and the mother of a drunkard's children.

THE SLAUGHTER OF THE INNOCENT

We shudder at the story of the Turks who try to exterminate the life of even unborn Armenians, but alcohol is infinitely more brutal. Every child has the right to be well born, the right to an inheritance of possible physical, mental, and moral achievement. Listen to the latest indictment against alcohol:

The organs of the human body are made up of cells too small to be seen except with the microscope. These cells are protected by a surrounding membrane. Alcohol is one of the very few substances that can penetrate these cell walls and come into direct contact with the protoplasm in the cell, shrinking and injuring it. The more complex and delicate the cell, the more easily it is invaded by alcohol. This explains why the nerve cells first show the effects of alcoholic drinks, and also explains the results, as shown by Professor Hodge and Professor Demme, as to hereditary influence of alcohol.

Only 17 per cent of the progeny of a pair of alcoholized dogs was able to live, as compared with 90 per cent of the offspring from a normal pair under otherwise similar conditions, is Professor Hodge's report of his experiments.

Professor Demme, who compared the families of ten intemperate and ten temperate couples, found almost the same result. Of the children of normal parents 88 per cent lived, and of the children of alcoholized parents only 17 per cent lived.

His investigations tell only the number that were not able to survive. They tell nothing of the limitations, the defects of body, mind, and soul in all gradations from the submerged tenth in the slums to the nervous, aimless beings that did outlive the attack of alcohol upon their first existence. Concerning this, Dr. Forel, one of the greatest living scientists, says:

"Alcohol is an insidious poison having the power of insensibly causing degeneration of living tissue, deluding the brain while paralyzing its power, a process which is almost always accompanied by an agreeable feeling of narcosis. It is especially adapted to cause the gradual deterioration of the hereditary energies of the germ of the animal species. . . . . It is not a case of the simple transmission to descendants of ancestral characteristics, nor of the new combination of the latter. No! It is an instance of a destructive agent coming from without to deteriorate a germ which in itself was good.

"But this element, when once a part of the hereditary mechanism, does not soon leave it. It perpetuates the defects which it engenders, according to circumstances, in several generations. These may be—the facts prove it—of a widely differing nature, and affect the most diverse organs. Such defects are: general feebleness, dwarfed stature, rachitis, epilepsy, idiocy, weak-mindedness, nervousness, monstrosities, etc.

"This is what constitutes alcoholic heredity, imperfectly understood and so incorrectly interpreted in general."

For any parent to entail upon children and children's children feebleness, stunted growth, rickety, epileptic, idiotic, weak-minded conditions or any form of monstrosity is an unspeakable crime against the children who must bear this awful burden as long as they stay in this life. Oh, the sin of it! the wrong of it! Herod slaying the innocent was nothing to this. And for what must they suffer thus? Only that a

father, perhaps a mother may enjoy the tempory agreeable feeling of narcosis which the alcoholic drink causes.

The feeble, stunted, rickety, epileptic, nervous, defective, idiotic population of any nation will be in proportion to the per capita consumption of alcoholic drinks consumed by that nation.

THE BREWER'S GAINS ARE THE REPUBLIC'S LOSS

The family is the unit in modern civilization. Alcohol, by debauching the man who should be the loving protector and breadwinner in the home, by breaking the heart of his wife, despoiling his children of their rightful inheritance of natural ability, beggaring them all, is the greatest enemy and destroyer of the home.

The hearthstone is the cornerstone of the American republic.

Who are profited by this consumption of alcoholic drinks that is making such havoc in our land? Only the men who make and sell these drinks, the brewer, the distiller, and the saloon-keeper.

One of their craft retorted to a judge about to sentence him for illegal selling: "You can't stop rum-selling. As long as there is an eight cent profit on a ten cent drink, men will sell and you can't help it."

Enormous profits on small investments are the charm in this business that calls only for a hardened conscience as equipment in this trade that takes the people's money and gives them in exchange, crime, poverty, misery, madness, and national peril by destroying character, our most valuable asset.

Palace-Church, Wittenburg, Germany. The iron doors shown at the centre replace the wooden ones to which Luther nailed his ninety-five theses.

THE PEOPLE THE SOURCE OF POWER

Why are not the manufacture and sale of these drinks forbidden? A government of the people can not prohibit the manufacture and sale of beverages that the majority want to drink, because the people are the government, and the vote of the majority on a question submitted to them constitutes statutory law.

When a majority of the people do not believe in or want to drink alcoholic beverages, they will prohibit their manufacture and sale. Assuming that a majority were not ready for the prohibition of their toddy, our national and most of our state governments have attempted by heavy taxation levied on the drink to cut down the profits on the trade, hoping thereby to restrict sale.

But it does not work that way. The victim of the craving for alcohol will have his booze no matter what it costs. Thus the trade has been able to pay the tax and still do business in the destruction of the people at a profit, while the government has become practically a partner in the liquor business by receiving a share in its profits in the form of taxes.

Such profit-sharing has a very stultifying effect on the popular conscience, although it has been conclusively proved that every dollar paid into the municipal, state, or national treasury on the sales of fermented or distilled liquor costs the people thirty dollars to take care of its consequences.

If, in private affairs, it cost a man thirty dollars to make one, you would say the sooner he closed up that business and saved the twenty-nine dollars he was losing the better would be his chance of escaping bankruptcy.

Do you ask how we could pay the many expenses of government, if the millions paid in taxes on liquors and other narcotics should stop? If we shut up the breweries, distilleries, saloons, and cut off the trade in narcotics, we shall put thirty times as many millions into the people's pockets as this unholy traffic is putting into the federal treasury.

The financier does not know what he is talking about who whines over the loss to the federal treasury of this blood money. To be sure, we sha have to readjust our methods of raising revenue. But the people are ready for a change that will save them thirty good dollars for every blood-stained dollar they decline. Direct taxation could easily be borne by a people who were relieved of the expense of crime, pauperism, misery, and madness caused by alcohol and other narcotics.

THE INDICTMENT AGAINST ALCOHOL

Here then, in brief, is our indictment against alcohol. It is a physical, mental and moral poison, not only to the drinker, but to his descendants. It is undermining the efficiency of the people from generation to generation in proportion to the amount taken, and in addition to this it is destroying the home, the bulwark of our civilization. Its boasted contributions to the public treasury cost the people thirty times more in money than these are worth, while its profit-sharing debauches the public conscience.

THE OLD WORLD DRINKER HERE

We saw in the case of old Rome that the besom of destruction was ready for a people sunk below recuperation. The descendants of those very Huns, Goths, and Vandals that destroyed Rome are now invading our country as emigrants from southern Europe.

One million came last year, four million in the ten preceding years, and still they come. As the wealth of old Rome invited the ravages of the predatory people of that time, so our vast resources, those of the richest nation of all time in all the world, are an invitation to all to come here, and they are coming.

In the largeness of our thought of liberty, we put the ballot into the hands of the men among these millions all too soon after they land on our shores, and thus invite them to help govern us. This ballot, if uninstructed, is destined to swell the majority for alcohol which will be the millstone hanged about the neck of this nation to drag it down into the hopeless sea of alcoholic corruption.

We have seen from history that in the fullness of time the people either rise and shake off destroying vices or are destroyed by them. The fullness of time when this government must abolish its drink system or be destroyed by it has certainly come.

The cup of iniquity that follows the use of alcoholic drinks is full to the brim and running over with ruined lives, crime, poverty, misery, madness, tears, broken hearts, and national perils from the invading millions who are bringing old-world drinking habits with them.

THE RESCUE

The force in the affairs of men that is making for righteousness has provided a way of escape from this peril. It is prevention through education, in the plastic period of childhood before an alcoholic appetite is formed; education that will reach all the children, teaching them with other laws of health the reasons for total abstinence from alcoholic drinks and other narcotics.

Such education will pre-empt an overwhelming majority for intelligent sobriety. Such a majority will prohibit the manufacture and sale of this stuff which has been the blight of the last century. Will the people now recognize the peril and apply the remedy is the question on which the civilization of the twentieth century will turn.

The force in the affairs of men which makes for righteousness we call Providence. Note its beneficent provisions for this education. There was no unanswerable proof that total abstinence from alcoholic drinks is God's law in nature until science found within the last thirty years that men were mistaken in thinking moderate drinking safe, and that the scientific connection between the first glass and the drunkard's fate was not in the weakness of the drinker but in the nature of the drink to create an uncontrollable desire for more, a desire which no one can tell how long he may be able to resist. During this time science has further proved in the laboratories of the world that it is the inherent nature of alcohol to cause the awful havoc which follows in the wake of its use.

MEANS FOR SPREADING THIS TRUTH

Twenty-two years ago, when these facts had been proved, a marvelous movement began which has since spread over this entire country and is now extending to other lands. Our national Congress and the legislatures of every state have enacted laws requiring these truths about alcohol and other narcotics, together with the laws of health, to be taught the pupils in all the public schools of this entire country.

Through the thorough enforcement of these temperance education laws for all pupils, and especially for those in the lower grades, we can educate the immigrants in our midst through their children who attend our public schools. This is the only way to prevent their presence in our land from becoming like the destroying march of Attila the Hun.

Let me tell you how this is being done. New York State has a splendid temperance education law that requires at least three lessons per week for ten weeks of each school year below the second year in the high school, with a textbook adapted to grade in the hands of all pupils in grammar and high schools.

While in New York city, a city missionary asked me to go with her on her rounds through Five Points, one of the purlieus of that great city. Gladly accepting the invitation, we climbed to the highest rooms of a tenement house. There we found a Bulgarian, his wife, two big boys and a half grown girl intently lis-

tening to a boy who was reading aloud from a book on which rested one ray of departing sunlight.

Looking over the shoulder of the young reader I saw that his book was one of the illustrated temperance physiologies provided for fourth grade pupils in the school which the boy was attending.

As he translated the story of the injury of alcohol to working ability, the man answered in his own language which the missionary translated: "It is the way of the country. I ask railroad, factory, shop, anywhere, 'May I work?' The boss ask if I drink. I say 'Yes,' no work. I say 'No,' plenty work. It is the way of the country, drink, no work; no drink, much work. It good country."

The same thing is going on all over this land wherever these laws are thoroughly enforced.

BOOKS FOR PUPILS INDISPENSABLE

The brewers bitterly oppose text-books on this subject adapted to grade in the hands of pupils. Said a German scholar concerning the value of books by pupils as contrasted with oral instruction only, "The spoken word escapes, the written word abides." As we want these truths to abide in the minds of our coming Americans, we must insist upon books adapted to grade being put into the hands of all pupils able to read. The schools furnish three sources of information: the teacher whose words appeal to the eargate of the child; the book which appeals to the eyegate, supplementing the teacher's words; observation or experimental work, guided by the teacher.

To withhold any one of these three sources of information in any study, and especially in this, is to limit the means for all-round education. The brewers know that a book which teaches the physiological reasons for total abstinence in the hands of every child who can read in the public schools will cut down the sales of beer. The more these sales are cut down, the greater the chance for the perpetuity of this government of the people, which can never be stronger than that character which beer destroys.

If this republic endures, it is destined to show to the world the union of diverse races who have been taught in our schools to abhor alcoholic drinks, and who, in governing themselves as one great nation, have abolished the present legalized drink system as completely as human chattel slavery is now abolished.

This is coming, friends, but do not be cheated into delaying it by any specious arguments against books on this subject for pupils' use.

Interior of Palace-Church, showing Luther's tomb at right of font, Melancthon's tomb at left of font.

THE COMING MAJORITIES

God, the God of Nations, is calling every one of us to remember that he expects us quickly to educate the majority of the voters of this land to abhor alcohol, because such a majority is the only force in this land that can close the saloon.

It behooves us, then, to find in what grades of our schools we shall find this majority. Our National Bureau of Education tells us that the average public school attendance in this country is not quite five years of two hundred days each. This shows that the majority of our coming voters are now in the first five years of the public school, and that everything that can be done to teach them that alcohol and other narcotics are their greatest enemies and the greatest enemies of the nation must be done during these years.

In the three primary grades the instruction must necessarily be oral. But the teacher must have an oral lesson book to teach from. Such a book is ready.

After these little people have had such oral lessons, there should be put into their hands, in the fourth school year, an interesting temperance physiology primer of forty lessons which they can easily understand and remember,—such a book as I saw the Bulgarian boy translating to the other members of his family in New York.

In the fifth and sixth school years these children will be able to comprehend a larger treat-

ment of the subject, and should have it in corresponding book form. One properly prepared book will meet the needs of both these years, the first half for the fifth year and the second half for the sixth. The same is true of the still more advanced physiology needed for the seventh and eighth school years.

These four books, if they are good books with a high school book for pupils of that grade, and good teachers will furnish ample equipment to set the next generation right on this question and give an overwhelming majority against that abomination of desolation, the American saloon.

CROCODILE TEARS

A recent issue of the *Brewer's Journal* says:

"Efforts are being made in some of the states to abolish or subject to reasonable control the instruction given to public school pupils as to the effects on the human body of alcoholic beverages. Public educators, in many conspicuous instances, are outspoken in their opposition to such instruction to children of tender years."

One is reminded of crocodile tears by this moving appeal that little children shall not have this teaching. They know as well as we that the coming majorities who will vote life or death to the beer business are in the lower grades of the public schools. Can we believe that their appeal is wholly disinterested?

What of their claim that public educators in many conspicuous instances are helping them?

A pitying attendant asked a man dying in a lodging house in London if he wanted anything.

"Yes, I want a friend," was the bitter reply of Benedict Arnold as his soul went to meet his Maker.

This country has had but one Benedict Arnold. I am slow to believe that there are to be recruits from the teaching profession to join that solitary man who tried to sell his country for gold.

PRESENT RESULTS

We are telling what will come of this teaching, but we can tell also what has already been accomplished. For more than twelve years this study has been well nigh universally compulsory in this country, teaching the injury alcohol does to working ability, and business now generally prohibits its use by employes.

The schools have been teaching that alcohol is a dangerous and seductive poison, and the per capita gain in the consumption of alcohol has dropped from seven and a fraction gallons to two and a fraction, in spite of our enormous importation of foreign drinkers.

The schools have been teaching the physiological reasons for obeying other laws of health, and the average length of life has increased four and one-tenth years.

Are not these results contradicted by the liquor party? To be sure they are. They have so long said that prohibition does not prohibit, that of course they are now saying that education does not educate.

Have not opponents charged that the text-books are inaccurate? Oh, yes, but they did not prove their charges. Professor Atwater declared that the text-books ought to teach that alcohol is a food, but the scientific world laughs at the deduction drawn from his experiments on that point, which in reality proved that instead of being a food alcohol is a protoplasmic poison.

The costly experiments of the Committee of Fifty, which were expected to prove the teachings of the text-books inaccurate, conclusively proved them to be true, while the *Reply to the Committee of Fifty*, showing that their accusations were false, has been published as a government document.

He who said, "I am the Truth," is standing by his truth.

VICTORY NOT FAR OFF

The child is born who will see the last legalized saloon, brewery, and distillery go from our land, *if*, I have been accustomed to say, we enforce our temperance education laws. But I am now going to say without any if, the child is born who will see the last legalized saloon, brewery, and distlllery go from the land *because* we are going to enforce these temperance education laws.

How old will be the child born this year when the last saloon goes? Will he be an old man? No, no! The truth concerning alcohol is out, we have the machinery for spreading it, and we are in the spreading business. "The truth shall make you free," is a sure promise of the God of Nations who has taught us to begin with the child in the command, "Train up the child."

How old will the child be? If we make as great progress in the next ten years as we have in the last a tremendous change for the better will be due by the time that child is ten years old. Send continuously a given set of truths into the homes of the land by the children, letting them go home day after day telling what they have learned on this subject, and a force is at work that can not be suppressed, but will manifest itself whenever a question arises requiring the application of these truths.

Just such a force is now at work in our land on the alcohol question, through scientific temperance instruction in the public schools, and even with our present imperfect teaching it is

making sentiment against alcohol with greater rapidity than we realize.

HOW TO HASTEN THE GLAD DAY

The truth can be brought directly to the voters in another way. Let us suppose that there are one thousand voters in a town which has local option on the alcohol question. Some of the voters among that one thousand are known to be temperance men. Others are uncertain. Others still, for various reasons, vote for license.

Divide these two classes of voters, the uncertain and the license men, into groups of five, and have each group under the tactful, unobtrusive care of a wisely selected temperance man or woman who will begin the work of personally educating each man in his or her group on this subject.

Begin the work as nearly as possible twelve months before election; not with aguments against license, but with the latest truths against drink and its effects on the health and prospects of the drinker, as well as the results of its use in the larger field of the family and the nation. Create first in the mind of the voter the intelligent abhorrence of all alcoholic drlnks that the truth warrants, and you will have a sure foundation for a no-license vote.

Do you ask how this kind of educational work can be done? By the kind, neighborly methods known to tactful persons. Leaflets and newspaper articles should be freely used. There has never been so vast an amount of scientific truth as now, showing the inevitable havoc wrought by alcohol, and truth that has been put into such simple language that even the common laborer can understand it. The plainest, most unlettered voter in your town is entitled to all this truth that warns against alcohol, and it is your duty to see that he gets it. If he and others like him, home-born and foreign born, do get it, manhood suffrage on the alcohol question will prove a blessing and not a peril to our community.

Let all the temperance people in all the churches, the Christian Endeavor societies, Epworth Leagues, Woman's Christian Temperance Unions, Anti-Saloon Leagues, and other philanthropic and charitable organizations unite in this work, and as surely as God has so made the human mind that it responds to truth, so surely will enough of the uncertain voters and those who before were license men vote *No* to send the last saloon, brewery, and distillery from our towns and states. This can be done. If it can be done, it must be done, not in one community alone but in all, until the land is freed from the curse of alcohol.

Address, Oct. 19, 1904, before the State Convention of the Ohio Woman's Christian Temperance Union, held in Columbus.

IN EARLIEST SPRING

Tossing his mane of snow in wildest eddies and tangles,
Lion-like, March cometh in, hoarse, with tempestuous breath,
Through all the moaning chimneys, and thwart all the hollows and angles,
Round the shuddering house, threating of winter and death.

But in my heart I feel the life of the wood and the meadow
Thrilling the pulses that own kindred with fibers that lift
Bud and blade to the sunward, within the inscrutable shadow,
Deep in the oak's chill core, under the gathering drift.

Nay, to earth's life in mine some prescience, or dream, or desire
(How shall I name it aright?) comes for a moment, and goes—
Rapture of life ineffable, perfect—as if in the brier,
Leafless there by my door, trembled a sense of the rose.

—W. D. Howells.

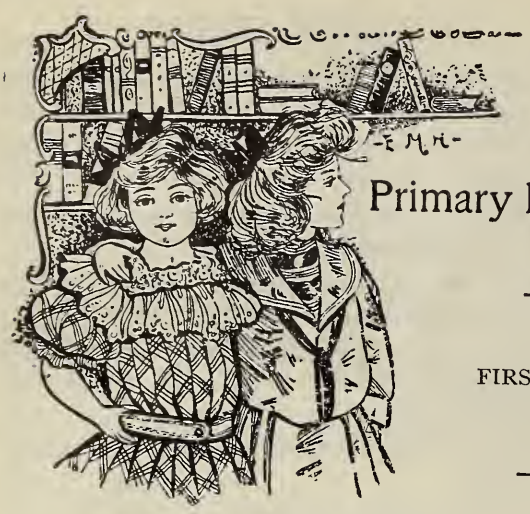
PROGRESS IN GERMANY

A gain of at least 20,000 total abstainers in Germany in less than two years is the report of the German paper, *Die Enthaltsamkeit.*

In February, 1903, the total enrollment of the various temperance societies in the Fatherland was 35,000; In December, 1904, it was 57,921. Allowing a few thousands for those who may be members of more than one society, the total is believed to be not less than 55,000.

Total abstinence organization by professions or callings is a favorite method in Germany. There are abstinence societies among teachers, physicians, merchants, railroad employes, workmen, students, pupils, pastors, and various smaller societies, including even jurists and stenographers.

For Germany, with her "kommers" where college professors and students grow maudlin together drinking to their ancestors, predecessors, successors, public officials and everybody else, to oppose drinking societies with anti-drinking societies seems only logical. But with true German thoroughness the people are coming to realize that the only lasting reform depends on knowledge of the effects of alcohol on health and efficiency, hence the liveliest interest in the temperance movement in Germany now centers around the part which the school is to take in the struggle against alcoholism.



Primary Lessons

FIRST YEAR

THE LEG

BRAIN culture is no longer recognized as the sole object of school training. Slowly but surely the thought has gained ground that body and mind must work in harmony if the human being is to do his best work in the world, and in accord with this thought hygiene and temperance have become an important part of our public school courses of study.

The child of to-day is better fed and better clothed than ever before. He works as well as plays in pure air and amid hygienic surrounding. He is taught how to breathe, and how to sit, stand, and walk. He is given frequent change of occupation. His limbs and senses are trained, and instead of falling behind mentally it is found that his mind is more alert and that he learns faster than ever before. Such a result is indeed to be expected, since every voluntary muscular act is accompanied by stimulation of the corresponding brain and nerve centers.

A graceful walk and proper carriage of the body are in themselves an indication of power, and the means by which they are secured are thus a legitimate part of the study of hygiene. But to obtain the best results, the necessary training must begin early, before bad habits have been formed, and it must also be suited to individual needs. The physical exercises chosen must be formative in all cases, and corrective wherever incipient deformity or other abnormal condition exists. In all such cases, of course, the work should be under the constant oversight of a competent physician.

Enlist the child's own co-operation by frequent object lessons on the different parts of the body, illustrating each by stories, pictures, games, and other attractive methods which will suggest themselves.

In connection with class talks of this sort on the leg, we suggest that the teacher show first what this part of the body is for and how very useful it is, then how it is made up and fitted for the work it has to do, and finally the care it needs.

(1)

USES OF THE LEG

Call one of the children to you and whisper some errand that you wish him to do. Ask the rest of the class to watch the movements of this child as he does what you have told him.

Call on some one to tell what James just did. Let another name the parts of the body that James used when he walked across the room to do his errand.

Who knows why we all need legs? What else can we do with our legs besides walk?

Kate may run across the room. Harry may hop. Karl may jump as high as he can. Helen may stand.

What parts of their bodies did Kate and Harry and Karl and Helen use just now? Tell something else you have seen a baby do with his legs.

I can see something in this room that has legs and yet can not move at all; what is it? Who knows why the table and chairs can not use their legs as we can?

Who has seen something move about from place to place that had no legs? What is it that moves the clouds up in the sky? that moves the steam engine? the trolley? the automobile? Can any of these things move of themselves? Why not?

How are boys and girls better off?

This is the time to explain that only live objects can move about as they like, while things that are not alive can change their position only as they are moved by something else.

How many legs have you? Name any animal that has just as many legs as you. Name an animal that has two more legs than you have.

Who has seen something alive that has more than four legs? Interest the children in watching different forms of animal life about them, to find how many legs each has and how it differs from people in this respect.

The next time a snail is seen, for instance, they are to notice how it walks, and how many legs it has. So with the fly, the spider, grasshopper, or any other familiar animal, bird, or insect.

Bring live objects into the schoolroom for all such observation work, whenever this can be done. A canary, a globe of gold fish, a pet cat or dog, an angleworm, or other specimens can easily be obtained in most cases, and the children shown how to observe them by the example of the teacher.

This is the time, too, to teach kindness to all forms of life, and to lead the children to see

how much they can find out without hurting or frightening the animal in any way.

If live objects can not be had, use pictures or drawings, and these may be used also to supplement the study from life.

Sum up the points which have been brought out in the class talk and write these on the board as a reading lesson for the children.

POINTS TO REMEMBER

I have two feet.

They help me walk, run, jump, hop and move from place to place wherever I wish to go.

I can move about because I am alive.

I have one more leg than a snail.

I have just as many legs as a bird.

I have two less legs than a horse.

A fly has six legs.

A bird has wings as well as legs to help it move about.

A fish has no legs. It moves by its fins and tail.

A worm has no legs. It moves by crawling.

(2)

PARTS OF THE LEG

Find what parts of the leg are already known to the children, and teach the common name of each part, — hip, thigh, knee, lower leg, shin, calf, ankle, foot.

Have the children touch each part of the leg as it is named, until they know its exact location.

"Who's this little boy I see, standing up in front of me?
If he tries real hard he can grow to be a noble man."

What other part of the body is shaped something like the leg? Find the part of the arm that corresponds to the hip; to the thigh; to each of the other parts of the leg.

Find the parts of the leg you can bend. How many such parts are there? Give the name, joints, to these parts, if the children do not know it already.

In how many ways can you move your hip joint? your knee joint? your ankle joint? your toe joints? Let the children rise and make the necessary movements of the leg to find out.

Does your leg look just like the leg of a dog, or a bird? How is it different from either in shape? in covering?

What is the shape ot your leg? Name something else in the room that is shaped like a cylinder. Name other parts of the body that have this shape.

What kind of a covering do most animals have on their legs? What kind of a covering do your legs have?

Find a part of your leg that feels hard to the touch. What is the name of the hard parts of the body that we can feel beneath the skin? Find a part of the leg that feels soft to the touch. What do we call the soft parts of the body?

Combine the drawing and physiology lessons by letting the children draw a picture of the leg. Some one in the class may pose as a model for this exercise, preferably a boy with well shaped legs.

Another day, the class may draw the leg of a cat or dog, or whatever animal can be brought into the schoolroom for this purpose.

The children may also model in clay the leg of one or more of the animals observed, if material for this purpose is part of the equipment of the schoolroom as i should be.

Test the pupils' powers of observation after such study of the parts of the leg as has been suggested, by showing pictures of the legs of different animals and asking the children to give the name of the animal to which these belong.

POINTS TO REMEMBER

My leg is made up of eight parts,—the hip, thigh, knee, lower leg, shin, calf, ankle, and foot.

My arm and leg are shaped something alike.

I can bend some parts of my leg.

The parts that can bend are called joints There is a joint at my hip, and at my knee, and at my ankle, and at my toes.

My leg has a covering of skin.

The legs of most animals are covered with hair, or fur, or wool.

The leg is shaped something like a cylinder.

The leg is made up of bone and flesh.

The bones give it strength, and the flesh helps to give it shape.

(3)

CARE OF THE LEG

Choose one of the children to stand by you facing the rest of the class. Measure the distance from the child's hip to the floor, and from your own hip to the floor.

Ask the class if John's leg will ever be as long and large as yours. What makes our legs grow?

Write the children's answers on the board, as far as these are correctly given, and spend a few minutes in talking about each in turn.

We know that our legs are made of flesh and bone because we can feel both when we touch them, and we can see the soft, warm covering of skin that protects them from harm, but where do we get the new material that will make our legs grow larger and longer?

It comes from the food we eat. Nobody ever swallows a bone if he can help it, but we can eat food that makes bone. Milk is one such food. Eggs and meat and bread and oatmeal and ripe fruit and fresh vegetables are other kinds of food that make our legs grow.

They do not need much candy, and tea and coffee are not at all good for them. Of course we should never think of giving these good little workers such things as beer or cider.

There is no food in such drinks, and the alcohol they contain might keep them weak and small instead of helping to make them grow as food does.

Show the picture on page 105 of the baby learning to walk. What is he standing in? Why does he need a frame to hold him up? How does he learn to walk?

Ask the children who have baby brothers or sisters at home to tell whether a little child's legs are harder or softer than their own. Explain that a baby's bones are very soft and not strong enough to bear his weight at first.

We must be careful not to let baby stand on his feet too long at a time, and not to try to make him stand at all until he is ready to do so of his own accord, or his little legs will grow crooked and out of shape.

His legs will grow strong by using them a little at a time. We can give ours more to do because they are stronger to begin with. But we, too, must sit and stand straight if we want to have well shaped legs.

Let us all stand now and see how tall we can make ourselves.

See that each child stands squarely on both feet, with the weight on the ball of the foot, and that head and shoulders are erect and firm.

Repeat the standing position many times a day till the children take it naturally when they rise.

See that they sit properly as well, and that desk and seat are properly adjusted to the height of each child.

Give frequent exercise in running, being careful that the head and trunk are held erect, and that the child breathes through his nose.

Practice jumping, with knees bent and the weight of the body falling on the balls of the feet.

Call attention to the clothing needed for the leg in this climate. Most animals have thick fur or hair to keep them warm, but we have not, so something else is needed to protect these parts of our bodies.

Children do not always realize when their clothing is damp, or when their limbs are cold, so the teacher must see that they are kept comfortable.

In stormy weather, see that rubbers and gaiters are worn outdoors and removed as soon as the child enters the house. Take care also that no child sits in wet stockings.

Good exercises to develop bodily poise may be given as follows:

Stand erect, lift right foot from floor, cross it over the left, and bring back to position. Repeat with left foot.

Extend right leg to side, to the front, to the rear, bringing it back to position each time. Repeat with left leg.

See that the body is kept firm throughout these exercises, and not allowed to sway back and forth with the leg movements.

Show the picture reproduced on page 108, and tell a story about it, bringing out the points already emphasized as to the care of the leg. These may later be written on the board and used as a reading lesson.

POINTS TO REMEMBER

The food we eat makes our legs grow large and strong.

Some of the best foods are milk, eggs, meat, bread, butter, fresh fruit and vegetables.

Tea and coffee are not good for children.

Beer and wine and cider are not foods. We should never taste them.

Cigarettes will not help us grow. They are bad for everybody.

A baby must not stand too long at a time, or his legs may grow crooked.

We must sit and stand erect.

Our legs need plenty of exercise.

If we keep our legs and feet warm and dry, we shall not be likely to take cold.

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When thy brave trumpets call from east to west
Earth's pulses leap to greet her royal guest,
And there's a magic in thy wildest strain
To woo the bluebird o'er the windy plain,
While dreaming violets stir in sweet unrest,
O wind of March!
—ELIZABETH WINSLOW HARMON.

NO AGE LIMIT TO THE DANGER FROM ALCOHOL

THE recent report of the Committee on Alcohol and Narcotics of the New York State Science Teachers' Association contains the statement that "youths, say under twenty-one, should abstain altogether from alcohol." This is virtually saying that after twenty-one they need not abstain. The present instruction in the schools makes no such distinction, because the cells and tissues of the young are made up of the same chemical substances as those of adults. They are less able to resist injury than adults, but the nature of alcohol does not change when the user crosses the line of his majority.

The public schools teach that the danger from the use of alcohol inheres in the nature of the substance when brought into contact with the human organism, whether that of the man, woman, youth, or child. In this it is in harmony with other writers who say, as does Professor Abel:

"The best bred man [not youths simply] indulging in wine with permissible moderation no more escapes the minor mental changes induced by it than does its meaner slave fail of its sense-destroying power when he drinks 'till he remembers his misery no more."

Again it is *men*, not youths only, of whom the writer in the Boston *Medical and Surgical Journal* says:

"The average *man* [italics ours] with perhaps a family or relatives dependent upon him, should not jeopardize his chances for success by the use of alcohol. The diminution in mental and muscular power invariably accompanying the use of even small amounts of alcohol is a potent factor in determining his efficiency, chance for promotion, and appreciation by his employers. Clearness of thought, quickness of perception, keenness of sight, deftness of touch, skill, and accuracy in manipulation are valuable assets of the successful man, and each and all of these factors are so immediately affected by the use of alcohol as practically to interdict its use with men whose ambition leads them to hope for and strive for the best in life."

The above is not mere opinion; it is an unavoidable deduction from the results of accurate scientific demonstration and observation.

It was not youths but *men* that Professor Aschaffenburg of the Heidelberg University tested and found able to do fifteen per cent less work after taking alcohol.

It was not youths but *men* that Professor August Smith tested when he found that two and one-half ounces of alcohol given in one day made them less able to work the second and third day afterward.

It is not youths but *men* who, if abstainers, get better rates from life insurance companies, because the death-rate of abstainers is from eighteen to twenty five per cent less than that of non-abstainers.

It is not youths but *men* who are required by the Boston Elevated Road to take oath that they do not use intoxicating liquors, or be dropped from consideration as applicants for employment.

It is not youths but *men* who are dismissed from service on the New York, New Haven, and Hartford and other railroads if they are found to be habitual users of alcoholic liquors, or even if they frequent places where such liquors are sold.

It is not boys but *men* who are dismissed from positions as bank clerks if they are seen taking ale or beer with their mid day lunch.

All of this, and more which might be added, shows that it is not youths alone but men also who are so injured by alcohol that their efficiency, at least, is diminished by its moderate use.

It would be gross injustice to the youth of America to-day to teach them that they should abstain *until* they are twenty-one, thereby implying that afterwards they could drink with impunity, when, as Professor Benedict says:*

"The experience of the large employer of labor verifies to the smallest detail the deductions of the psychological laboratory, that the moderate use of alcohol diminishes a man's efficiency.

"The habitual use of small amounts of alco-

* Boston *Medical and Surgical Journal*, February 18, 1904.

hol can not be considered harmless even to the select class of men.

"Men, whatever their position or range of their capacity, can not in these days afford to be at less than their best.

"A man is not that complete master of himself that he must be to succeed, with that most intricate organism, the brain, imperfectly functioning.

"By just as much as alcohol in large or small quantities diminishes mental activity, by just so much does it handicap the man whose keenness of perception and manipulative skill are absolutely essential to him in these days of the sharpest competition known in the history of the world."

Advising the young to abstain from alcohol *only* until they are twenty-one or twenty-five is opposed by science, by business sagacity, by philanthropy, by patriotism, by ordinary human kindness. It is luring to destruction by flying the false signal of security where should be flashed the red signal of certain danger.

The habit-forming power of alcohol has no age limit.

Riding and walking and work and play
Make us grow stronger from day to day.

ONE THING AT A TIME

Little David went to the store with his father. His father bought him a sack of candy, but while taking it home, David stumbled and fell. The sack burst and he did not have much candy left for his little sister. She was very indignant and asked:

"Why didn't you let Papa hold the sack while you fell?"—*Little Chronicle.*

Kansas needs uniformity in the matter of scientific temperance instruction. Nothing else will do so much toward fortifying her against the expenditure of vast sums for the care of the victims of vice. Whatever form this instruction may take, it should be uniform and compulsory.—I. L. DAYHOFF, Superintendent Public Instruction, Kansas.

[In accordance with this policy of uniformity, Kansas has recently adopted the entire New Century series of indorsed physiologies. This puts an oral lesson book into the hands of all teachers of primary grades, and well graded books into the hands of all pupils using books in other subjects.—*Ed.*

A MARCH SONG

In the orchard old as night draws nigh,
A moist March wind is blowing;
Over my head, in a cloud-rift high,
A glimmering rim in a misty sky,
I see the young moon showing.

Through branches bare the soft air sings
And there seemeth a faint life stirring,
With a sound like that which the light rain brings,
Or the half-uttered words of whispering things,
Or a whish of wee wings whirring.

In darkness deep the brown seed swells,
And up from the warm earth flowing
I am sure that a faint, sweet music wells,
Like the tinkling tones of tiniest bells,
A song of spring flowers growing.

GERTRUDE MERRILL DODDS.

A STOMACH TROUBLE

"Doctor," said the patient, "I believe there's something wrong with my stomach."

"Not a bit of it," replied the doctor promptly. "God made your stomach, and he knows how to make them. There's something wrong with the stuff you put in it, may be, and something wrong in the way you stuff it in and stamp it down, but your stomach is all right."—*Temperance Cause.*

My little brother, Robert, who is not yet four years old, heard his papa talking about going to the seashore next summer. He became impatient to go at once, and was told that the ocean was too cold for bathing in winter.

"But," said Robert, "we can take the teakettle with us."—*Little Chronicle.*

Grammar Lessons

FOURTH YEAR

DIGESTION

ONE of the most serious problems in the conduct of modern affairs is how to avoid waste, or loss of energy.

Manufacturers today are making their largest profits out of odds and ends of material that only a few years ago were discarded as refuse. Business houses are calling in experts and paying them enormous sums to point out leakages in their establishments and show how these may be stopped in future. In one such instance the manager himself was shown to be employing wasteful methods, and he gladly paid the fee that had been agreed upon for being made to see that he did not know how to run his own business.

At present only one per cent of the energy stored up in coal can be utilized in making electric lights. A fortune awaits the inventor who can stop or greatly minimize this loss and render the remaining ninety-nine per cent of energy available for use.

Unquestioned authority also declares that the average young man and woman wastes ninety-nine per cent of the energy stored up in brain and muscle, and puts only one per cent into really valuable achievement. Here is the most serious loss of all, and one that is being illy provided against.

The school, more than any other agency, has the opportunity to stop this waste of energy and find ways and means of turning the current of the child's powers into productive channels. But before energy can be utilized for results it must be produced, hence the proper foods for school children and their transformation into energy in the body are preliminary problems which teachers and schoolmen must solve.

No one expects the child to understand, what the scholar does not, how the latent energy wrapped up in bread and meat and other food stuffs is set free in our bodies to be used in work and play and study. But he can understand and should have the chance to learn that this marvelous change does take place, and how he can help or hinder it. Knowing these facts, he can be led to see his responsibility in making this energy tell for good.

MAKING FOOD READY FOR THE BODY

An excellent preparation for the study is to read aloud or tell to the class the story of digestion as given of this topic in Dr. Wood-Allens book, "Marvels of our Bodily Dwelling." Follow this with the chapter on digestion in the physiologies for this grade, letting the pupils read the different paragraphs aloud one after another.

Then have the books closed and ask some one to describe the mouth, or reception room for the food we eat. How many servants do we find in this room? What work does each have to do? When are they the busiest?

What is the color of the uniform worn by the teeth? What can we do to keep these little servants always looking neat?

Find how often the children brush their teeth, and if each one has a tooth-brush of his own. Tell why the teeth need to be brushed night and morning and after each meal. Ask some one to illustrate the proper way of brushing the teeth. Why should particles of food between the teeth be removed at once? What kind of toothpicks should be used? Why should this part of the toilet be attended to only in one's room?

Find how often the different pupils are in the habit of going to the dentist, and urge the importance of having the teeth examined at least once in six months. Instead of increasing the expense, this practice lessens it, besides keeping the teeth in better condition.

Point out the location of the three different glands on each side of the mouth which secrete saliva. Let the class find from their books, if they do not know already, the important uses of the saliva.

Let them think of reasons why it is important to eat slowly and to chew each mouthful of food thoroughly before swallowing it.

How is the saliva wasted by chewing gum or tobacco? What effect will such waste have on the body?

Where does the food go after it leaves the mouth? Let some one draw in outline the passage from the mouth to the stomach. How does the food get through this passage? It does not simply drop through, for it is possible to swallow while holding the head lower than the stomach.

Outline the stomach on the board. What is its shape? How much will it hold at one time? Why can it not do its work properly if it is filled too full?

What is the name of the little servaets in the stomach whose work it is to change the food still more and make it ready to build up the body? In what part of the stomach are they to be found?

You all know how your mouth waters when you see or smell something good to eat. The stomach does the same thing when food comes into it. If we take food that is good for us and that we like, a great deal of gastric juice is made and the stomach does its work quickly and well. Another thing that helps is to feel happy and to talk only about pleasant things at the table, or when we are eating.

After the stomach has done its work, some of the food is ready to go directly into the blood and be taken to the parts of the body that need it. How does it get to the blood? What becomes of the rest of the food that is not yet ready to be taken up by the blood?

HELPS AND HINDRANCES TO DIGESTION

Show the picture of the horse and his little driver reproduced on page 111, and ask why it is that horses and other animals seldom have indigestion or stomach-ache.

Some of the reasons that should be brought out are that their food is plain and simple, that it is given regularly, and not too much at one time.

Our food is very different from that of a horse, but we should take just as much pains to have it suit our needs as we do to have our pets' food right for them.

Let the class write down a list of foods that are welcomed by the stomach and that are of use to the body. Have the best list written on the board. Call for reasons why any drink that has alcohol in it is not liked by the stomach. What harm do such drinks do if taken only moderately? Name other things sometimes taken into the stomach that are harmful and should never be used.

Spend as much time as can be given to the subject in talking about the best ways of preparing and serving the most common foods, the amount of food needed at one time by different classes of people, the best times to eat, and the importance of good table manners. How do all these things help digestion? How is digestion hindered by the lack of any one of these essentials?

No farmer takes his horse out of the stable for a long drive as soon as it is through its dinner. Why not? Why is it just as wrong for a boy to rush out to play ball or some other stirring game immediately after a hearty meal? What would happen to the food in his stomach in such a case?

One very successful teacher used to advise his pupils to make themselves as big men on the inside as possible, that when the time came for them to do any work or fill any important position in life they would be ready. One of the ways in which one can make himself big on the inside is to get and keep a good digestion.

AUTHORITATIVE QUOTATIONS

ALCOHOL UNFAVORABLE TO DIGESTION

Alcohol does not give force; it is not force producing. The seemingly exciting impulse which it produces is but a fleeting exaltation of the organism, after which comes the period of fatigue, weakness, and paralysis. The consumption of alcohol neither augments the physiological energy nor the muscular work. Alcohol does not warm the organism. Alcohol does not favor digestion.—G. von Bunge, M. D., Professor of Physiological Chemistry, University of Basel.

Sir Wiliam Roberts has pointed out that the effect of alcohol is to weaken, or at any rate to retard, the process of digestion. That being the case, it is surely obvious that its use in cases of slow and imperfect digestion can scarcely be recommended. A day in bed is a far more sure alleviator of dyspepsia than any amount of alcohol, and a few days of such treatment followed by a course of regular dieting, rest, and fresh air, will put a patient in a fair way of recovery when alcoholic treatment has utterly failed to produce any good results.—G. Sims Woodhead, M. D., University of Cambridge, Eng.

EFFECT OF ALCOHOL ON PEPTIC AND PANCREATIC DIGESTION

In confirmation of the view that ethyl alcohol (the alcohol present in intoxicating liquors) retards digestion, a recent investigator, Mr. E. Laborde, has communicated some results to the *Journal of Pharmacy*. The influence on peptic and pancreatic digestion of the presence of 0.5 and 2 per cent of alcohol was determined by digesting coagulated albumen with pepsin or trypsin for three or four hours, estimating the albumenoses and peptones produced, and comparing the results with those obtained in experiments without alcohol. Both peptic and pancreatic digestion were distinctly retarded by the small percentage of alcohol present.—W. N. Edwards, F. C. S.

HOW ALCOHOL AFFECTS DIGESTION

The effects of alcohol upon digestion are twofold: first by irritating the mucous surfaces with which it comes in contact; and second by combining chemically with the digestive ferments, the products of digestion, or even with the tissues themselves.

Coincident with the anatomical changes brought about by alcoholic irritation, are the disturbances in the function of digestion. There is pain, nausea, distress after eating, depending upon the amount of damage the digestive organs have suffered.—JOHN MADDEN, M. D., in "Shall We Drink Wine?"

ALCOHOLIC DRINKS RETARD ASSIMILATION

Alcoholic drinks are not nutritive, they are not transformed in our body; on the contrary, they retard assimilation and nutrition.—AUGUST FOREL, M. D., Zurich.

TOBACCO A FOE TO DIGESTION

I can not too strongly condemn the use by the young of the cigarette, or in fact tobacco in any form. It affects the appetite, causes headache, and weakens the body, giving a peculiarly sallow look to the countenance. It is a great foe to digestion, and predisposes to mental as well as bodily disease.—S. P. WELLS, M. A., Prin. Model School, Goderich.

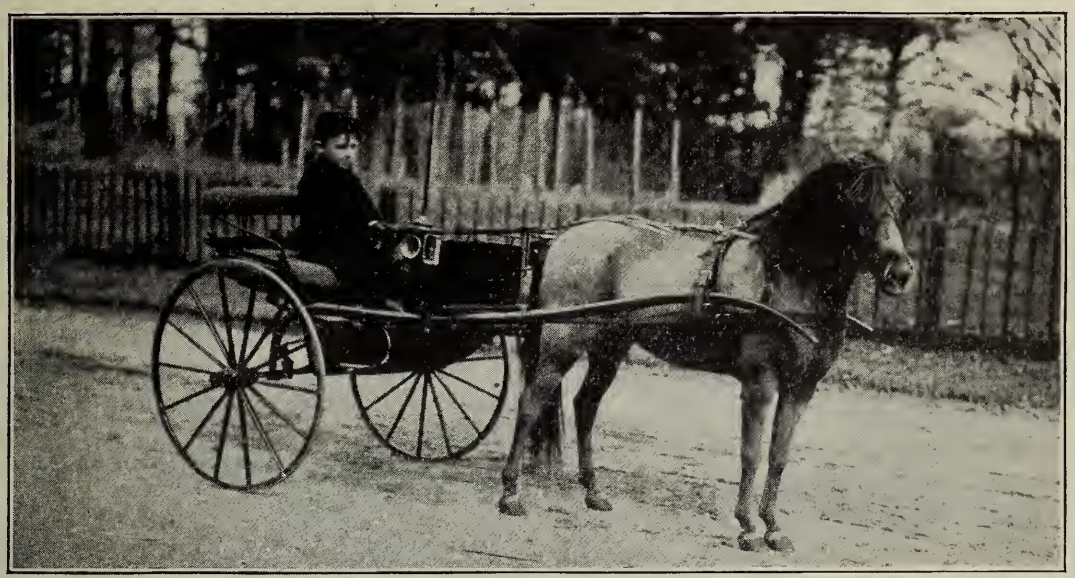
HOW TOBACCO INTERFERES WITH DIGESTION

There are many people who have the habit of smoking and chewing who think it does them no harm whatever. Many of these people get sick and die of some form of chronic disease before they arrive at middle life. They never suspected that their blood had been poisoned with nicotine and their digestion impaired to such an extent that the tissues of their bodies could not be supplied with the nutriment necessary for the support of life.

"The principal effect of tobacco," according to one authority, "or rather of its strongest constituent, nicotine, is to increase the secretion of fluids from the surface of the throat and intestines. All doctors agree upon this point.

"Smoking must therefore aggravate the catarrhal affections which afflict the greater part of the population of the United States. It increases the flow of mucous from the nose and throat. It should therefore be avoided.

"Those who chew gum before dinner find that when they come to eat and try to chew dry food, there is no saliva to mix with it, and they eat with discomfort. In this case exactly the same thing has happened to the salivary glands that would happen to the peptic glands if one were to smoke before meals. The gastric glands would be emptied, the fluids poured forth into the stomach under the stimulation, not being retained in that organ by food to be digested, would pass on into the intestinal tract, and when food was finally taken, the peptic cells would be unable to pour forth adequate solvents for the mass, and digestion would be delayed until such solvents could be formed by the forces of the body."—*Phrenological Journal.*



Two examples of a good digestion

A NEW PICTURE OF MRS. HUNT

In response to the many requests that have come to this Department for a large portrait of Mrs. Hunt suitable to hang in schoolrooms, we take pleasure in announcing that arrangements have been made with one of the leading firms in the country by which we can send such a picture, 18x22 1-2 inside measurements, securely packed, and postpaid, for the low price of $1.00. In style it is what is known as an artotype, similar to the large pictures of statesmen and poets already found in schools and public buildings, and is an exact reproduction of the fine photograph of Mrs Hunt which appeared on the first page of the December JOURNAL. We hope many schools will avail themselves of this opportunity to secure a copy.—Assistant Editor.

BOOK NOTICES

THE PHYSICAL GEOGRAPHY OF NEW YORK STATE, by Ralph S. Tarr. $3.50 net. The Macmillan Company, New York.

Teachers will find in this volume a collection of the articles which first appeared in the Bulletins of the American Geographical Society. The entire series, however, has been revised and brought down to date, and in its present form is easily accessible for reference. General and special physiographic features of the state are fully discussed, and their influence upon industrial development is well shown. The more than two hundred maps and half-tone illustrations are an admirable supplement to the text, adding not only to its usefulness but to its attractive qualities. A valuable feature which has not yet appeared in any other form is the complete bibliography which it contains of publications upon the physical geography of the state.

ELEMENTARY PHYSICAL GEOGRAPHY, by Ralph S. Tarr. $1.40. The Macmillan Company, New York.

If popularity is proof of merit, Professor Tarr may feel well satisfied with his text-books in physical geography. The fifth edition of his "Elementary Physical Geography" has already appeared, and it is being used and recommended by many of the leading high schools and academies of the country. At the same time it seems to us that a disproportionate amount of space and emphasis is placed upon the purely scientific aspects of air, water, and land. Such topics are of great interest in themselves to the scholar, but the practical person of affairs wants much more to know how these topics concern man and his interests, and this phase of the subject is inadequately treated.

NATIONAL CONFERENCE ON SECONDARY EDUCATION AND ITS PROBLEMS. Edited by V. K. Froula. Published by the University, Evanston, Ill.

The papers collected in this volume were presented at the Conference held at Northwestern University, in the autumn of 1893, to celebrate the completion by Dr. Fisk of thirty years of service as principal of the Northwestern Academy. The program as prepared and carried out dealt with so many topics of general educational interest and value that their wider dissemination seemed fitting, hence their appearance in this form. In general, the papers presented discuss the place and function of high schools and academies in our educational system, and their relation to the college and university. Students of pedagogy will find the collection of interest and help.

EDUCATION OF THE WAGE-EARNERS, by Thomas Davidson. Price 75 cents. Ginn & Co., Boston.

The introductory chapter by the editor contains an account of the life and philosophical thought of the late Professor Davidson which gives the proper setting to the book for those unacquainted with the author's other works. In the chapters which follow, the author clearly shows how far our present system of education fails to meet the needs of the vast numbers who must at once become producers upon leaving school. He does more than this. He suggests a remedy which he deems helpful, and which will be found so in many cases. Professor Davidson tested his theories in an evening class on the East Side, and has given an interesting account of the experiment in the closing chapters of the book.

FIRST PRINCIPLES OF AGRICULTURE by Emmet S. Goff, late Professor of Horticulture, University of Wisconsin, and D. D. Mayne, Principal School of Agriculture, St. Anthony Park, Minn. Price 80 cents. American Book Co.

With the exception of the cover, this book is remarkably attractive. The type is large and readable, and unusual care is given to the matter of headings and sub-headings. A glance through the pages shows a multitude of well chosen illustrations, one or more on nearly every page. The joint authors have had large experience in presenting the subject to classes of young men, and these lessons have been tested in normal school classes. The purpose of the book is to counteract the strong influence upon the country boy and girl away from the farm and toward the factory and city. This work for agriculture in the rural schools proposes to make the farm the center of interest, and to make all its industries, its economies, and its science the subjects of thought and study. For this particular class of schools it is distinctly more practical than much that is called nature study. The lessons and illustrations are simple enough for even very young pupils.

PHYSIOLOGY TOPICS FOR MARCH

PRIMARY—Parts of the Body used in moving about: Legs, Feet, Toes. Sense of Hearing. Sense of Smell. How the Body may be hurt by Alcoholic Drinks and Tobacco.

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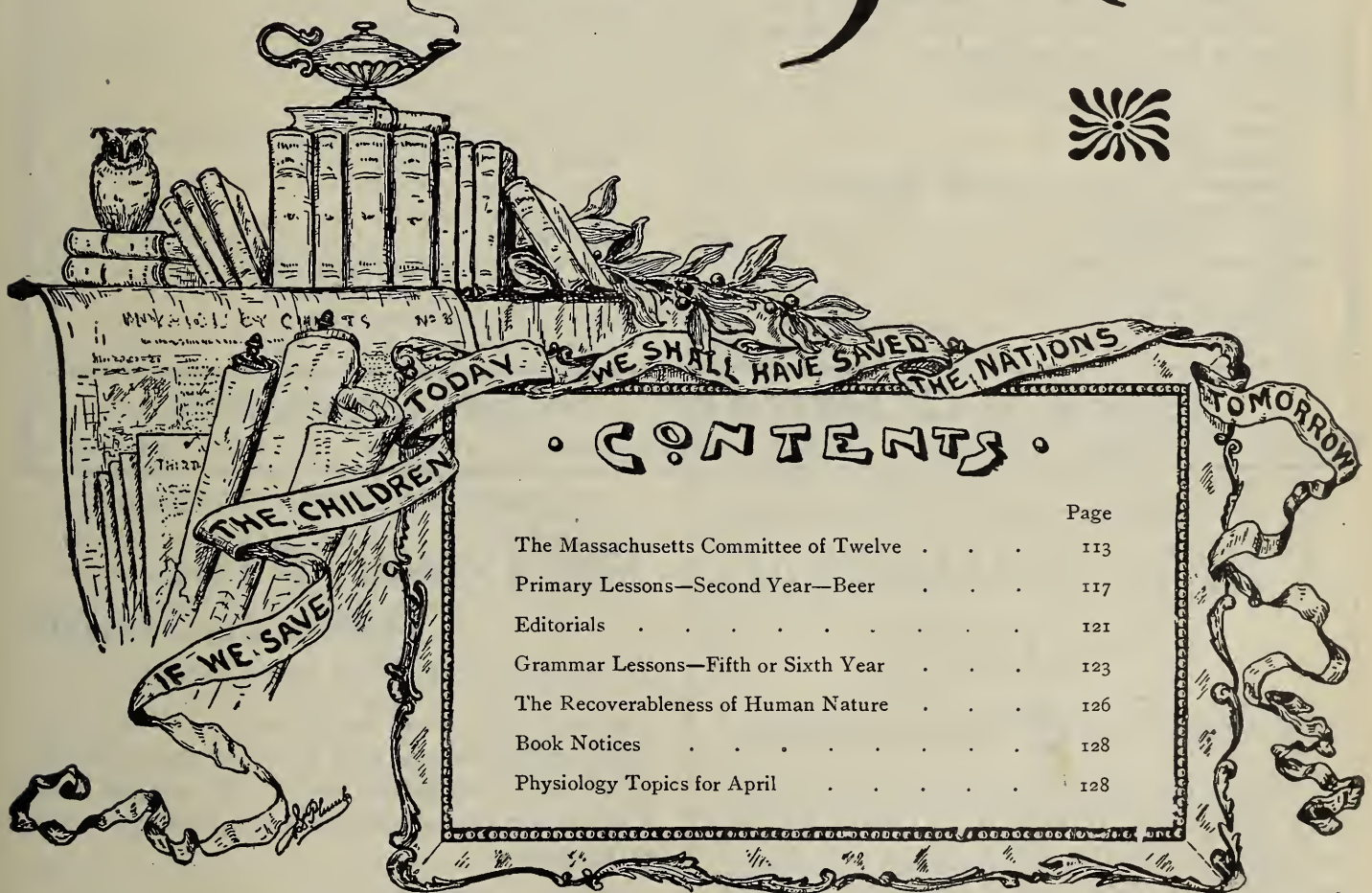

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MARY H. HUNT, EDITOR

VOL. XIV. NO. 8
APRIL, 1905

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It is a reproduction of the fine photograph of Mrs. Hunt which appeared on the first page of the December JOURNAL. We hope many of our readers will avail themselves of this opportunity to secure one of these excellent pictures of the leader of Scientific Temperance for their local schools.

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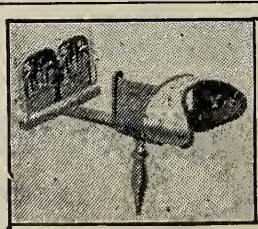

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School Physiology Journal

Vol. XIV *BOSTON, APRIL, 1905* *No. 8*

APRIL IS HERE

BY EBEN REXFORD

APRIL is here!
Listen, a bluebird is caroling near!

Low and sweet is the song he sings,
As he sits in the sunshine with folded wings,

And looks from the earth that is growing green
To the warm blue skies that downward lean,

As a mother does, to kiss the child
That has looked up into her face and smiled.

Earth has been sleeping, and now she wakes,
And the kind sky-mother bends and takes

Each laughing thing in her warm embrace,
And scatters her kisses over its face.

And every kiss will grow into a flower
To brighten with beauty a coming hour.

THE MASSACHUSETTS COMMITTEE OF TWELVE

ITS HISTORY AND WORK

AN alarming proportion of the young men from Massachusetts examined for admission to the army for the Spanish War was rejected because of tobacco heart. This and other evidence that the Massachusetts temperance education law is not specific enough to insure all pupils in all public schools being taught the evil nature and effects of narcotics, tobacco as well as alcoholic drinks, led the Massachusetts General Association of Congregational Churches to petition the legislature of 1899 for a stronger temperance physiology law, like those of New York, Illinois, Pennsylvania and other states. Official representatives of sixteen other church, philanthropic, and temperance organizations united in this petition.

Three well known Massachusetts clergymen say in the *Reply to the Committee of Fifty* of the fate of this effort:*

"By misrepresenting the provisions of the strengthening bill, by false charges of inaccuracy against the indorsed physiologies, by circular letters sent out by Dr. G. W. Fitz to teachers, enough opposition to the proposal to strengthen the law was secured to cause a division in the legislative committee, and no bill was reported to the legislature."

*See "*Reply*," p. 28.

ORGANIZATION OF THE COMMITTEE OF TWELVE

Following this, what was called the Massachusetts Committee of Twelve on Scientific Temperance Instruction was soon created. Its purpose was well described by one of the members, Dr. Fitz, who said in the last meeting, March 11, 1905:

"This Committee was made up of representatives from two factions. If no bargain was made, it was expected that each side would yield something so that an agreement could be reached that would be signed by all the members."

That portion of the Committee of Twelve which later became known as the Minority was never a party to such a bargain. They were ready to yield what seemed to them non-essentials, but never what seemed essentials for a sound hygienic and temperance education for all the public school children of the state.

THE FIRST POINT OF DIFFERENCE

As this Committee began its work, the first serious point of difference appeared when a majority of two on a sub-committee of three appointed to prepare a course of study for primary grades voted to exclude all temperance matter from those grades.

This was overruled by the full Committee which accepted the necessary total abstinence teaching; but at the same time the Majority voted that regular study be omitted in certain grammar grades, and that the instruction be given without the use of text-books for fourth year pupils, although they may have books in other studies.

COMPROMISE IMPOSSIBLE

A Minority of three considered such omissions as vital defects that would seriously limit hygienic and temperance instruction, or remove it from an important portion of the public school pupils, future voters of the state. Hence, it was as impossible for the Minority of the Committee of Twelve to yield to the Majority on this matter as it was for Samuel Adams to compromise with George III on the question of the Stamp Act.

Thus the painful struggle in the Committee of Twelve went on for five years. It was especially painful for the Minority. They gladly concede that the Majority was composed of men and women of high character, and presumably desirous of the best interests of the schools. The Minority, however, had definite knowledge of efforts, fortunately unsuccessful, that were continually being made in the great states, by those

altogether opposed to temperance instruction in the schools, or measurably unappreciative of its importance, to minimize this instruction, by removing it, or the use of text-books, from the earlier years of the school course in which text-books in other studies are employed,—efforts which the liquor organs have invariably hailed with delight. Meanwhile, little was done for the enforcement of the temperance education law in Massachusetts, while the cause of temperance proportionately declined in that state and the license vote increased.

Why did not the Minority abandon the battle when agreement seemed impossible, may be asked.

Because of their confidence that frank and kind discussion of these momentous issues would eventually lead reasonable minds at least to a nearer agreement, as the event has proved. Moreover, by staying on the Committee as constant protestants, disagreeable as was the work, the Minority for five years prevented the publication of a very defective course of study on this vital subject which, if sent out, would have been disastrous for Massachusetts and a poor example for other states.

PROGRESS INFALLIBLY REAWAKENS

But the sublime law of progress is not repealed. Confident that the hour is set for that overthrow of alcohol which waits for popular intelligence as to its evil nature and effects, the Minority was sure that "the stars in their courses" were somehow, somewhere helping in this battle. This has been strikingly illustrated by recent events.

A short time ago the very course of study that for five years the Minority has, in substance, been urging upon the attention of the Committee of Twelve was recommended by a committee made up of the most distinguished scholars in the English-speaking world, representing the medical profession of England, Scotland, Ireland, and Wales, and by them sent for adoption to all the public schools of the foregoing countries.

This stimulated public opinion in Massachusetts, and a new committee was immediately organized, called the Committee on International Course of Study in Temperance Physiology. This new Committee asked the Committee of Twelve, in view of this fresh opportunity for wider harmony, to unite with them in recommending for the schools of Massachusetts this course of study which had thus become international.

While not complying with this request, the Committee of Twelve voted, Jan. 28, 1905.

To recommend this study in all grades from the fifth to the eighth inclusive, from two of which they had before excluded it.

At the last meeting, March 11, they voted

To recommend suitable books for pupils' use in temperance physiology in the grammar grades above the fourth year;

To make out no course for high schools;

To table their list of recommended books on this subject, and dismiss the sub-committee on books.

The proposition was then made that the committee of Twelve disband.

DEFECTS IN THE COURSE NOW PROPOSED BY THE MAJORITY

The course of study now recommended by the Majority of the Committee of Twelve, though improved, is deficient in two respects:

In its provisions for the fourth grade.

In its provisions for the seventh and eighth grades.

There is no special objection to their course for fifth and sixth years as it now stands, except that it would be better to divide the work definitely between the two years, for the better guidance of the teacher, instead of massing it all together.

The trouble with the course for the fourth year is that it is largely a repetition of the work proposed for the second and third primary years. It does not specify the simple, physiological facts which are appropriate and necessary for the children of the fourth grade, and it eliminates the use of books for pupils, which might correct this deficiency in physiological matter. Their specification on this point reads:

> "The instruction shall be oral, that is, without the use of text-books in the hands of the pupils during the first four grades or years of school.
>
> There shall be a supplementary use of books."

Who is to have this "supplementary use of books?" Not the pupils, for the preceding recommendation says they must not have a book in their hands in this subject.

Instruction must necessarily be oral in the first three primary years, but in the fourth year pupils are old enough to have a book and they need it as one source of information.

The use of books by pupils as a supplement to, or in connection with, oral instruction brings the truth to them through two avenues,—the ear-gate by the teacher's instruction, and the eye-gate from the book. The spoken word escapes, the written word abides. The two combined make the impression more indelible, which is of supreme importance in this subject to prevent cigarette and other unhygienic habits. Moreover, where pupils of this grade have books in other subjects there is no reason why they should not have them in this, to be used in the same way.

The objection to their course for the seventh and eighth years is that it is deficient in the necessary new matter in physiology and *temperance*. It tells the teacher to review the work of the previous year, which is simply providing for repetition without the addition of any new matter. It recommends the addition of some new matter in hygiene, which is good, but hygiene without physiology is dogmatic assertion. Professor Gaule says:

"Instruction in temperance physiology can not be imparted without a foundation in physiology, giving the idea that human life is based on definite laws."

FOUR ESSENTIALS INSISTED UPON BY THE MINORITY

The Minority of the Committee of Twelve from the first have steadily insisted upon four things, namely, that if the Committee published a course of study in temperance physiology for the schools of Massachusetts that course should recommend:

1. A brief topical outline of the truths that constitute the physiological reasons for total abstinence from alcoholic drinks and other narcotics, and for obedience to other laws of health.

2. Such a division of these truths as is adapted to each succeeding grade of school, beginning with the first primary and ending with the first year of the high school,* thus covering the whole subject without unnecessary repetition while guiding the formation of habits during those susceptible years.

3. That pupils who have books in other studies shall have books as one source of information in this study.

4. That, notwithstanding the different proposals of the Majority, this study be given as a regular branch in each and not omitted in any of the four years or grades known as the fifth, sixth, seventh, and eighth, where it reaches the largest number of pupils and at the most impressionable period.

This does not mean that the Minority want instruction in this subject to be given every day in the school year nor every lesson to be a temperance lesson. It means only that time necessary for covering the subject shall be given to the study. This requires but 2 or 3 lessons per week for 10 weeks in each of the 3 primary grades, and 3 or 4 lessons per week for 10 weeks in each of 6 years above the primary, making in all at the most but 330 lessons, distributed through 9 years, *in the whole subject of physiology and hygiene*, of which not more than 1-4 or 1-5 need be temperance lessons. From 500 to 900 lessons in geography are often given in the same time. Sir Victor Horsley of London says:

"The English physicians ask that this study shall rank third in importance for the schools of the United Kingdom, language first, arithmetic second, hygiene and temperance third."

"O sacred month of all the year!
Its revelation rainbow spanned,
And glorified by God's own hand."

TWO THINGS THE MINORITY HAVE NEVER ASKED FOR

Two things the Minority have never asked for:

1. For what school men call "text-book methods" in the use of books in the fourth grade, that is, lessons which the pupils must memorize and recite from the book? The false charge that the Minority want that ancient method seems to be the main reason given by the Majority for refusing books for fourth year pupils.

The Minority are too well acquainted with pedagogy to ask for such an archaic method. They have denied this charge again and again, stating that all they ask is that books adapted to grade be recommended for fourth year pupils who have books in other subjects, to be used according to the best modern methods, and when this false accusation has been repeated, they have keenly felt the injustice.

2. The Minority have never taken, as has been charged, any time in the meetings of the Committee of Twelve to discuss a particular book or a particular class of books, "indorsed" or otherwise, or a particular publisher or any publishers.

*Omitting the ninth grade in schools having nine grades below the high school.

The Minority have stood for and pled for the truths adapted to grade for all the children. The question whether certain books contain these truths was not reached, for the report of the sub-committee on text-books was tabled and the sub-committee discharged without discussion by the full Committee. The Minority was not represented on that sub-committee, hence they have had no part in that portion of the work of the Committee of Twelve.

In view of the public need, is it not time for our teachers and school authorities generally, and all divisions of temperance reformers to unite cordially and earnestly in the enforcement of those temperance instruction laws, and in that international course of hygienic and temperance teaching to which eminent scholars and philanthrophic publicists abroad are now resorting as the best safeguard against the personal ruin and national degeneracy induced by the violation of the laws of health, including the use of intoxicating drinks?

Signed by the minority:

ALBERT H. PLUMB, D. D.,
Vice Prest. Mass. Total Abst. Society.

JESSIE FORSYTH,
International Supt. Juvenile Work of the Good Templars.

MARY H. HUNT,
Nat'n'l and Internat'n'l Supt. Sci. Temp. Inst'n of the W. C. T. U.

CAUSE AND EFFECT

For the past ten years, New York State has had a strong temperance education law requiring all pupils in all schools to be taught the nature and effects of alcoholic drinks and other narcotics in connection with the laws of health. Now comes the news that the company which operates the New York subway system owned by the city has taken a radical stand against drink.

"Take a drink and you lose your job" is, in effect, the dictum that has just gone forth.

The company is now employing large numbers of new men and taking back many of the old employes who went out in the great strike that is now practically broken. The company has made use of the opportunity to take a firm stand against intoxicants. All successful applicants for positions are required to sign a total abstinence pledge as a condition of their being taken on. The company employs thousands of men.—*New Voice.*

Governor Hanly, of Indiana, has announced as his policy that he will not appoint any man to office who takes intoxicants, whether he gets drunk or not; that he believes the policy of railroads and other large business interests in refusing to employ drinking men is a good one, and he intends to apply it to the business of the state.

BELIEVE

BY CARA WATERMAN BRONSON

Believe God is!
That all the heights and breadths and depths are his;
The birds of light,
The fears that walk at night,
The psalms of gladness and the silences;
The instinct strong that will not let thee stay
Thy hands from labor though thy sight be dim—
All, all are but the windings of the way
That leads at last to Him.

Believe thou art
Of all the wondrous universe a part;
Not small or slight,
But needful in his sight
Who planned thee, soul and body, mind and heart!
Who formed thee, tuned thee, set thee, and doth know
If to his touch thou givest answer true.
Then fail not, wondering heart, though thou dost go
Softly the long days through.

AS OTHERS SEE US

The government adoption and publication of the "Reply to the Committee of Fifty by Mrs. Mary H. Hunt, as Senate Document No. 171," is evidence that the National Department of Scientific Temperance Instruction in the public schools is not uninformed on the scientific side of the alcohol question.

The title page of the British Syllabus of Study reads:

"Suggested Courses of Teaching in Hygiene and Temperance for Boys and Girls in the Public Elementary Schools of the United Kingdom.

"Issued by the Committee of the Medical Profession in the United Kingdom, constituted to promote the Teaching of Hygiene and Temperance, Chairman, Sir William Broadbent.

"Based upon the scheme prepared by Mrs. Mary H. Hunt, for use in the schools of the United States of America."

This is further evidence that the National Department's efforts to find how to so teach this vital subject in the public schools that it will shape the life of a nation have resulted, in the opinion of some of the best thinkers in the English-speaking world, in the evolution of sound pedagogical principles.

Primary Lessons

SECOND YEAR

BEER

A FEW months ago, a Japanese sailor on board the flagship of his fleet wrote to a friend explaining why he had become a total abstainer. A part of his letter ran as follows:

"My body has become a very precious thing, because I have consecrated it to my country. Therefore, it is not to be injured by such things as alcohol and nicotine. I must guard it with every possible care and attention until I meet my fate in the cause to which I have given myself."

With the Japanese, love of country is a passion. The present war has shown that in all ranks of society no endeavor is too great and no sacrifice too costly if thereby the national honor may be furthered. But people elsewhere will be as loyal and respond as eagerly to calls to service, if they can be given an equally inspiring motive.

This is especially true of children. Their fresh, young enthusiasm is quickly kindled to deeds, and requires only to be given proper direction. Why then shall we not, even in their earliest years, teach them that their bodies also are a very precious thing, and as such are not to be injured by alcohol or any narcotic?

No American, we may hope, will ever again need to meet his fate on the battlefield fighting for his country; but national honor must be upheld in peace as well as in war, and the same qualities which have distinguished the Japanese in their conflict with Russia are needed every day and in every form of endeavor in our country, and these qualities can not be acquired or maintained if intoxicants are habitually used.

No child old enough to go to school is too young to be tempted to taste beer; hence, he is not too young to be taught why he should refuse to yield to the temptation. Teaching on this point, as on all others, must be simplified to the child's comprehension, and so presented as to arouse his interest and influence his conduct. The following lesson has been prepared with these thoughts in mind, and is offered in the hope that it will prove helpful and suggestive to teachers.

The main points on this topic to be developed in the second grade are that beer is made from grain, a food substance; that it is changed in the making to a harmful drink; and some of the ways in which it is likely to hurt those who use it.

(1)

MADE FROM A FOOD

Bring into class one or more kinds of food made from some grain, perhaps a plate of crackers, or a slice or two of bread. Give each child a cracker or a small piece of whatever article of food has been brought in. Also sketch a loaf of bread on the blackboard.

What is bread made of? Of what are crackers made?

Many of the children will not know, but if any one can tell give him a chance to do so.

Show pictures of grain fields, and have specimens of all the principal grains raised in this country for the children to look at. These may be kept in small bottles, each properly labeled, and used over and over again by the teacher, in other lessons as well as in this.

Pass these bottles around, one at a time, or let the children come to the desk and examine them, until they are thoroughly familiar with the appearance of all these grains and able to give the right name of each at sight.

In city schools, especially, where children seldom or never see growing grain, it will be well to soak a few kernels of wheat, corn, rye, or barley in water, and plant them in boxes in the schoolroom long enough beforehand so that the young plants will be a few inches high before this lesson is given.

Place these boxes on a desk or low table where the children can gather around and look at them. Tell how tall these plants grow in the field; where on the stalk the new grain will appear; and how its color changes as it ripens.

Tell briefly the story of the gathering of ripe grain, and the processes by which it is threshed, cleaned from chaff, and ground into flour.

Let the children name all the different kinds of food they can which are made in any way from grain. After their present knowledge on this topic is exhausted, let them find out what they can on the subject at home or in other ways.

Write on the board the various articles of food that are commonly found on the ordinary table at breakfast, dinner, and supper, and help the children to decide which of these foods are made from some kind of grain.

After they know some of the most important uses to which grain is put as a food, tell them that bread, which is made from grain, is called "the staff of life," because it helps to support so many people.

But sometimes this good grain is put to a very bad use. Instead of being made into bread, or some other food to keep people alive it is

(2)

CHANGED INTO A HARMFUL DRINK

Draw on the board a barrel, bottle, and glass, and label each *beer*. Put these beside the picture of the loaf of bread.

These drawings stand for something else that begins with b. Is beer the same thing as bread? Does it look like it? Why not? How is it different?

Find out how many of the children can answer these questions. Let them tell all they can on these points, then give such additional facts as they can understand, until they know why beer and bread are not at all alike, although both are made from the same kinds of grain.

If woven into a story like the following, many of the truths that should be brought out will be more quickly grasped and better remembered.

CASPAR'S SCHOOL

There was nothing Caspar liked to do better than to play school with his three sisters.

He was always the teacher, because he was the oldest and knew what to do better than they did.

Once, when the girls had grown tired of sitting still and doing just as he told them, Caspar put his pet dog and cat and the toy animals from his Noah's ark on the table, and played they were his pupils.

Jean and Esther and Lucy thought such a school was very funny. They stopped playing with their dolls, and listened to what Caspar was saying.

"This is a phys'ology lesson," he told his new pupils. "It's about beer, and I'm going to 'xplain why you mustn't ever drink it, Towser, and Jumbo, and Kitty Gray, and all the rest of you.

"P'r'aps you think now that beer is a good drink, just because it's made out of good grain, same as bread is; but it isn't.

"Beer has alcohol in it, and alcohol is a poison."

"I don't believe it," interrupted Jean; 'cause poison kills folks, and lots of people drink beer and it doesn't kill them."

"That's because they don't drink enough beer at once," said Caspar.

"There's only a little bit of alcohol in one glass of beer, but there is some. My teacher said so yesterday, and my phys'ology says so, too."

"'Course that little bit isn't enough to kill you, but it's enough to hurt some, and it makes you want more, like as not, till by and by you can't let it alone. So I'm never going to drink any."

Just then Kitty Gray thought of a mouse she wanted for her dinner and jumped down from the table, so the physiology lesson came to an end. But Jean asked mother about beer, and she told her that Caspar was quite right.

Show the picture as you tell this story.* Let the children find Caspar and each of his sisters, and point out the different animals on the table. Which ones are alive? Which ones are not?

Call on several of the children to tell what they remember about the story, dwelling on the facts brought out in regard to beer.

Then write the words, bread and beer, on the board as headings for two parallel columns, and place under each the facts thus far developed. They will read something like this:

THE DIFFERENCE BETWEEN

BREAD	BEER
Bread is a solid	Beer is a liquid
Good bread has a sweet, nutty smell	Beer has a strong, bad odor
Bread is one of our best foods	Beer is not a food at all
Bread becomes better in the making	Beer is spoiled in the making
There is no alcohol in bread	There is alcohol in beer

Alcohol is a poison
Even a very little may hurt us
It may make us want more
We will not drink beer or any other liquor that has alcohol in it
Then it will not hurt us

BAD EFFECTS ON THE USER

How does beer hurt people? This will be one of the child's first questions when he is told that this drink is harmful and that he must not taste it.

It is best to name only a few of its bad effects in this grade, leaving others to be brought out in more advanced classes. Choose those which the child can best understand and remember.

Every child wants to grow. He wants to be big and strong.

Then he must let beer alone, for beer-drinkers are not so strong as they would be if they drank water instead of beer.

There is nothing in beer to give strength. It is not a food. It can not make good muscle.

*See page 119

The beer-drinker is often fat, and slow in his movements, instead of being strong and quick as he ought to be, and as he might be if he never touched beer.

Sometimes he has a weak heart in the bargain. Then he can not run so fast nor do so much as the water-drinker.

What is the part of the body that we think with? Where is it?

Beer hurts this part, the brain, as well as the muscles. It makes one sleepy when he ought to be awake. It makes him dull and stupid when he ought to be bright and quick. It makes him slow at everything.

What is the part of us that makes us know when we do right and wrong? It has a long name,—conscience.

Beer hurts this part. It makes it harder for the drinker to know what things are right. It makes it easier for him to do wrong.

What a bad enemy beer is to the one who drinks it, to harm him in so many ways and do him no good at all!

What shall we do if we meet this enemy? How can we be sure it will never hurt us?

"This is a phys'ology lesson about beer, and I'm going to 'xplain why you musn't ever drink it."

AUTHORITATIVE QUOTATIONS

BEER NOT A FOOD

Beer is not a food. Let a man drink much beer, enough to make the amount of nourishment in it of value, and the other influences produced by such a quantity will be manifest to such a degree as to cast the factor of nourishment into the background.—J. ROSENTHAL, M. D., Professor of Physiology and Hygiene in Erlanger.

BEER DOES NOT GIVE HEALTH OR STRENGTH

The advocates of spirits, wine, and beer assure us that these drinks give health and strength, that they give warmth, and cause rejoicing. Today it is absolutely proved that this is not so. These liquors do not give health, for they contain a powerful poison, alcohol, and the usage of a poison can not but be injurious. That they do not give strength has been proved during months and years of work by those who are drinkers and those who are not, the result being always in favor of the latter who always produce more work and better. They do not warm, because the heat produced by them does not endure, and the drinker after a moment of excitement suffers more from the cold.—COUNT LEO TOLSTOI.

BEER INJURIOUS TO HEALTH AND LIFE

Where is the man who dares to deny that alcoholic drinks cause the gravest injury to health and to life; that beer, especially, diminishes intellectual capacity and strength of will, and makes a man a repulsive caricature?—MAX GRUBER, M. D., Professor of Hygiene, University of Munich.

BEER-DRINKING SHORTENS LIFE

Insurance companies expect a man otherwise healthy, if he is addicted to beer, to have his life shortened from 40 to 60 per cent. Thus, if he is 20 years old and does not drink beer he may reasonably expect to reach the age of 61. If he is a beer-drinker he probably will not live to be over 40 or 45. This is a cold-blooded business fact.—S. S. THORN, M. D., Toledo.

BEER TENDS TO MAKE THE DRINKER BRUTAL

Facts gained from wide observation show that beer, more than any other liquor, tends to make the drinker brutal. It seems to deaden the conscience and thus prepare a man for committing crime.—*Temperance Cause.*

BEER-DRINKING MAY CREATE THE ALCOHOLIC APPETITE

No other alcoholic drink leads so readily to immoderation as beer.—G. VON BUNGE, M. D., Professor of Physiological Chemistry, University of Basel.

ALCOHOL IN BEER

All beers, ales, porters, ciders, and wines (home-made or not) contain alcohol in varying quantity, but the character of the alcohol in every case is the same.—H. Newell Martin, M. D., Late Professor of Biology, John Hopkins University.

LIQUID BREAD

I REMEMBER once seeing over a public house door the sign, "Good ale is liquid bread." I went into the house and said, "Give me a quart of liquid bread."

The landlord said, "Ah, first rate sign, isn't it?"

"Yes," said I, "if it's true."

"Oh, it's true enough; my beer is all right."

"Well, give me a bottle to take home."

He gave me a bottle of his liquid bread. I took it to Dr. Samuelson, an analytical chemist, and said to him, "I want you to tell me how much bread there is in this bottle." He smelt it and said, "Its beer."

"No, no," I said; "it's liquid bread."

"Well," he said, "if you'll come again in a week, I'll tell you all about it." He charged me twenty dollars.

In a week's time I went to know all about the liquid bread. The first thing about it was that there was ninety-three per cent of water. "It's liquid, anyhow," I said; "we'll pass that. Now let's see about the bread."

"Alcohol five per cent."

"What's alcohol?" I asked.

"There's the dictionary; you can look it up for yourself."

I looked it up, and found alcohol described as a "powerful, narcotic poison." "Well," I thought, "this is the queerest description of bread I ever read in my life."

Then he gave me a list of small percentages of curious things which he had carefully put down on each corner of a piece of white paper, and which amounted to about a quarter of a thimbleful of dirty looking powder. That was the bread—two per cent.

"And there would not be so much as that," said Dr. Samuelson, "if it were Bass' or Allsopp's ale. This is bad beer."

"So the better the beer, the less bread there is in it?"

"Certainly. It is the business of the brewer to get the bread out of it—not to put the bread into it."

This is the simple, scientific truth with regard to beer, and the case is stronger with regard to wine and spirits. There is no nourishment in them at all. Science tells you so. Experience tells you so. They have no use in the human body, either as food or medicine.—W. S. Caine, M. P.

Considering the evidence, are we not fully justified in calling alcohol a poison, that is, a substance inimical to the organism, producing injury in small, and death in larger quantities? Are we not, moreover, fully justified in denying it a place in any classification of foods, because it neither repairs tissue waste, nor protects the organism, nor is it a source of organic force?

Let us then continue to teach our boys and girls that alcohol is a poison; that the fact of its being oxidized in the body, if taken in small quantities, is not sufficient to constitute it a food; and that the normal man is never benefited, but rather harmed by it, in any quantity. —*Alkaloidal Clinic.*

AN EASTER SONG

BY RICHARD LE GALLIENNE

Arise, my heart, and sing thy Easter song!
To the great anthems of returning bird,
And sweetening bud, and green, ascending blade,
Add thou thy word.
Long was the winter and the waiting long;
Heart, there were hours, indeed, thou wert afraid,—
So long the Spring delayed.

Shut in the Winter's alabaster tomb,
So white and still the sleeping Summer lay
That dead she seemed;
And none might know how in her magic side
Slept the young Spring, and moved, and smiled, and dreamed.

Behold, she wakes again, and, open-eyed,
Gazes in wonder, 'round the leafy room,
At the young flowers. Upon this Easter Day
Awaken, too, my heart, open thine eyes,
And from thy seeming death thou, too, arise.

Arise, my heart; yea, go forth and sing!
Join thou thy voice to all this music sweet
Of crowding leaf and busy, building wing,
And falling showers;
The murmur soft of little lives new-born,
The armies of the grass, the million feet
Of marching flowers.

How sweetly blows the Resurrection horn
Across the meadows, over the far hills!
In the soul's garden a new sweetness stirs,
And the heart fills,
And in and out the mind flow the soft airs.
Arise my heart, and sing, this Easter morn;
In the year's resurrection do thy part,—
Arise, my heart!

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The wild and windy March once more
Has shut his gates of sleet,
And given us back the April-time,
So fickle and so sweet.

—ALICE CARY.

DRINK AND COMMERCIAL EFFICIENCY

FOUR years ago leading papers in France, Belgium, Russia, and England were anxiously discussing the causes of the commercial supremacy of the United States. Most of the business men who contributed articles on the subject agreed that the American workman is the chief agent in enabling American manufacturers to take first place, and that he is far less given to dissipation than the workmen of other countries.

Investigation as to the causes of this greater sobriety in America showed that in this country alone there has been widespread public school study of physiology, hygiene, and temperance by legislative enactment during the past ten or fifteen years. During this time the children have been carrying home the lessons of health and sobriety taught in the schools, including the fact that alcohol injures working ability, and as a result of this wide diffusion of knowledge fully 3,000,000 men, in different forms of employment in America, according to the Birmingham *Post*, are now required to be total abstainers.

Once convinced of the vital relation of sobriety to commercial success, the nations of Europe are trying to secure the same results through education of their children and youth in hygiene and temperance. In England, especially, meetings have been held by almost all classes and professions to discuss the situation and find how best to educate the people in this matter. The action of the Medical Association of the United Kingdom in recommending a definite course of study in temperance physiology to every school board in England, Scotland, Ireland, and Wales has already been mentioned in these columns.

In Edinburgh, a great meeting, lasting for four days, convened this month to consider the same problem, and in London, on the 8th inst. the Lord Mayor, supported by the two sheriffs, the President of the London Chamber of Commerce, and an imposing array of business men of age and experience and of the highest standing in the commercial world, directors, members of Parliament, and medical men of the first rank, presided over one of the most remarkable gatherings of the year.

"And what had this representative gathering of prosperous British business men met for?" asks a prominent weekly, the *Alliance News*.

"Actually to declare war upon the drinking customs of business men, and by inference upon the traffic, the very apple of the eye of Mr. Balfour and his Government, which fosters and thrives upon these customs.

"And the operating motive was simply and solely this—that drinking is bad for business all around, bad for the worker, bad for the employer, bad for the State. The President of the Chamber of Commerce said the moment he found a man was drinking he considered it the truest kindness to discharge him at once, and he averred that employers were coming more and more to feel that they must have sober men.

"The Mansion House is redolent of dinners and diners, a place where men have often dined 'not wisely but too well.' Anything approaching Puritanism is anathema within those walls. Yet no spirit of timidity or hesitation curbed the frank expressions of the speakers, who from the point of view of the expert scientist, the medical man, the magistrate, and the employer roundly condemned drinking as an aid to physical and mental efficiency. They declared that within their own knowledge it had ruined the careers of scores of promising men who had trusted to its treacherous promises of help.

"Sir Victor Horsley, cool, clear, passionless, precise, stated the case against alcohol as an aid to physical efficiency in such a manner that one would think no reasoning being could resist. Speaking all through with scientific precision, and basing every statement upon tested experiments, he left no standing ground for the believer in alcohol as a food, or as a beneficial agent in the physical economy.

"Starting from the proposition that alcohol is not essential to life, Sir Victor showed that it was not beneficial to the body in any respect, that it retarded the processes of digestion and assimilation of food, that it lowered the temperature and reduced vital force, that it specially selected the nervous system for attack, that it had an apparent stage of excitation inevitably followed by a long, paralyzing effect upon the organs of the body, that

whilst it remained in the body intellectual processes were slower and less accurate, and physical work was less efficiently done. His conclusion was that for the person and for the nation there was 'no profit, but only loss in the use of alcohol.'

"All this was stated in the manner of a man who has carefully sifted the evidence, separated the essential from the non-essential, the apparent from the real, and absolutely refused to be led off the path of truth by alluring fallacies. His conclusions bore the impress of truth and fact, and visibly arrested the attention of his audience.

"The remarkable speech of Dr. Hyslop, senior physician of the Bethlehem Royal Hospital, was in some respects the most suggestive and thought-provoking of the afternoon. He grappled with what is after all the first of imperial questions, viz., the physical, mental, and moral condition of the imperial race. He declared that one in twenty of our population [that of Great Britain] was inefficient.

"The shepherd sun comes o'er the hill
To let out the flocks of spring."

"He called attention to the obvious fact that we are ceasing to be an agricultural and fast becoming an urban people. The consequent strain on the nervous system is much greater than that our forefathers had to endure. We are more sedentary, more confined to rooms with limited air space, more largely housed in overcrowded tenements. Under these adverse conditions alcoholic indulgence tells with increasing force and more disastrous effects.

"'The use of alcohol is an abuse;' he declared, 'in a healthy body.' Drinking brings about the suicide of a man's commercial supremacy.

"His plea for the building up of a sound, healthy people from the foundations gained in impressiveness by the lack of oratorical skill in its presentation; as of a man burdened with the weight of a message beyond the power of words to utter. One would like to see this argument developed and amplified, and its lessons driven home upon the hearts and minds of our statesmen.

"It was encouraging to see some two dozen reporters in attendance, as thereby we hope many thousands of readers have had their attention called to one of the most vital questions which a commercial nation can possibly be called upon to face."

Such meetings as these are rapidly opening the eyes of the world to the gravity of the problem which confronts them. The next step will be the adoption of regular, systematic instruction in physiology, hygiene, and temperance as the most permanent method of its solution.

DRINKING IN GERMANY

"THEY don't get drunk on beer in Germany," is a lie that has been peddled so industriously in this country that many good people have believed it.

But this lie will carry no farther. The German nation is waking up to its besotted condition. Count Douglass, a close friend of the Kaiser, has introduced a drastic temperance reform bill in the Prussian diet. It prohibits the sale of intoxicants to minors, to habitual drunkards, and persons under the influence of liquor; no intoxicating liquors are to be sold before 7 o'clock a. m.

This shows plainly that Germans have become so addicted to drink that they get drunk the first thing in the morning, which unfits them for the duties of the day.

The bill also provides that charts showing the effects of alcohol shall be posted in all public places. If any are disposed to claim that beer, on German soil, does not intoxicate, it will be well to call their attention to this bill of Count Douglass'.

France drinks wine and Germany consumes beer, and each nation has become alarmed about the degeneracy and degradation of its people.

—*Keystone Citizen.*

Wine merchants begin to complain of the growing total abstinence interest in Germany.—FRL. OTTILIE HOFFMANN, Bremen.

Grammar Lessons

FIFTH OR SIXTH YEAR

FOOD

A FEW weeks ago, it was announced through the press that there must be thousands, very likely 60,000 or 70,000 children in New York City alone, who often arrive at school hungry and unfitted to do well the work required of them.

Later and more thorough investigation by a special committee appointed by the Board of Education has shown that matters, though bad enough, are not quite so serious as was at first supposed. Comparatively few children go to school without any breakfast at all, but very many are insufficiently or poorly fed because their food is not well selected or properly cooked.

Of the children attending school from the poorer quarters of New York City, about two-thirds have been found to have only bread with coffee or tea for their morning meal. Nearly a thousand have never more than coffee *or* bread for breakfast. Conditions in other large cities are being found to be little better, and even in country districts where food is plentiful it is so poorly prepared that the proportion of children who are improperly fed before beginning the day's work in school is all too large.

It is not to be wondered at that such children are anaemic and unable to keep up with their classes. The wonder is that they can do any successful school work at all.

Teachers and school boards are doing something to meet the difficulty by serving meals of hot soup with bread or other simple nutritious foods at noon time. This is necessary in many cases to relieve immediate distress, but at best it is but a palliative; it does not remove the cause of the trouble.

It is true that poverty prevents many children from receiving enough nutritious food for their needs, but it is equally true that even the poorest would be far better fed if those in the home knew how to make the most of such food as they are able to buy.

Practical instruction which will meet this need is remedial work which it is always in the power of the school to do. Few children out of the whole number can go to a regular cooking school, but all, boys as well as girls, may learn in connection with their regular work in physiology and hygiene enough about food in its relation to human needs to revolutionize matters in many a home.

Pupils in these grades can understand, and will be vastly interested in finding out, what foods are best for the body and which are not so good; how much food and what kinds are needed every day; what are the most nutritious foods that can be bought at different seasons of the year for the least money; the simplest and best ways of cooking the foods that they have on their own tables at home; necessary rules for eating; and the reasons why alcoholic drinks of any kind should never be used, either in place of foods or in addition to them.

PROPER CHOICE OF FOODS

Before we can tell what to eat we must know what foods are in the markets near us, what we can afford to buy, and which of these are best for us.

In every case the teacher must consider these questions before planning lessons on food for her class, and shape the work accordingly.

In the first place, ask the class to find out and report where the different articles of food come from that appear on their own tables every day.

If these come from the market and grocery, let them find what kinds of food are now in season, and the prices of those most frequently bought. If all or a large part comes from their own gardens or farms, the choice will be more restricted, but they can still find what foods are now in season there.

Have lists made of the principal foods that are thus available. The next thing is to find which of these we can afford to buy. Some families can have strawberries in December, while others can afford only the very cheapest necessities of life at any time of the year. Cross off from the lists all foods beyond the means of your special pupils.

From the foods that we now have left, we must decide which are best for us, that is, which will do us the most good for the money we have to spend.

We need food for different reasons: to help us grow, to repair worn-out parts of the body, to keep us warm, and to give strength for work and play. Have the class find from their physiologies which of the foods on their list as it now stands will meet one or more of these needs.

Which, if any, will not meet these needs? All such can be crossed out at once, for we do not want to waste time over substances that are of no use or are actually harmful to the body.

Most people nowadays know very well that alcohol is not a food and that all drinks containing this poison are harmful to the healthy person. But some in the class may still think that beer, or cider, or some other drink of the kind may be taken in moderation without harm.

Find out if this is true of any of your pupils. If so, show from the physiologies and from the quotations from authorities at the end of this lesson that alcoholic drinks of any kind do not aid growth or strength, do not repair waste, do not keep the drinker warm, or answer any of the other necessary qualifications of a food; that, on the other hand, they may harm the user in some or all of these ways, and give him, besides, an appetite which he can not resist for more or stronger liquors.

If all in the class have right ideas on this subject, see that they know and can tell *why* alcoholic drinks should not be used as food or in any other way by well people.

PREPARATION OF FOODS

Suggest that each member of the class imagine that he has a certain sum of money with which to buy all the food for his family at home the next day, and ask him to find what he can get for this sum and report to the class at the next lesson.

The amount may be twenty cents for each member of the family, or as much as the teacher may decide upon. The conditions should be that each pupil act independently and find how he can spend the money to the best advantage.

Discuss each report with the class, and help the pupils to decide whether the money has been wisely used. If not, why not? The physiologies should be referred to to help decide these points.

Has too much money been spent in any case for a single kind of food, or for too high priced a food? Has meat been planned for more than one meal in the day? If so, what other foods could better take its place? Are there enough fruits and vegetables on the lists?

When all the menus have been amended to represent the best foods available for the money, take up the question of the preparation of these foods for the table.

Which of them need to be cooked? Why? In what different ways can they be cooked? Which are the best ways? Why? Refer the class to their books on each of these points, until their answers are correct and they can give clear reasons for each.

Ask all in the class, boys as well as girls, to find out how to cook some one dish that appears often on their tables at home. When they report on this in class, let the others make better suggestions if they can in any case, the teacher acting as final umpire.

Continue this plan till all the foods ordinarily found on the home tables of the pupils have been discussed, and all in the class are able to describe at least one good way of preparing each.

In most homes the parents will be glad to give pupils in these grades a chance to put theoretical knowledge of this sort into actual practice occasionally, but even where this is not allowed the children will gain useful facts that sooner or later will be of advantage.

TABLE MANNERS

Besides making a wise choice of foods, and seeing that those selected are properly prepared for the table, one thing more is necessary in order that what we eat may do us the most good. The meal must be enjoyable.

Experiments upon animals show that food will not digest as it should if the animal is tired, or if he is worried or angry. The same thing is true of people.

A boy may think he can snatch a sandwich or a piece of pie and run out to play, swallowing his food at the same time. If he is a strong lad, he may not feel any bad effects, especially at the time. But he is putting a strain on his digestive organs which they ought not to bear. He may be stunting his growth or impairing his strength for the future in a way that he may never be able to make good. It is not wise to run the risk.

Food digests best when one is hungry. How is this an argument against eating between meals? It digests best when one is happy and cheerful. What should we talk about at the table? What subjects should be avoided?

The surroundings must be pleasant, if one is to get the most good from what he eats. Why does this mean a clean table cloth, clean dishes well arranged upon it, and all food nicely served?

If possible, have a table in some part of the schoolroom with such dishes as most of the pupils have at home, and show them how to set it properly, and how to serve food. If this is not feasible, have each one prepare a diagram on paper showing how his own table at home should be arranged.

Bring out important rules for eating which every one should observe, either for health or politeness. Teach the right uses of knife, fork, spoon, and napkin, if there is any doubt on the subject.

A well known writer on household economics says that building better bodies for better souls is a process long delayed but growing steadily into recognition. Nowhere is it growing faster than in America, and in the public schools.

We are coming to recognize the need, and that is the first long step towards meeting it. The problem will be well nigh solved when the great army of school children, and through them the homes which they represent know what foods to choose and what substances to avoid; how to cook and serve every-day meals in the most nourishing way; and how to eat to get the most good from their food.

AUTHORITATIVE QUOTATIONS

BAD FOOD HABITS DISASTROUS TO HEALTH

It is easy to see one cause of ill-health. The food habits of the people are bad. The use of tobacco and the almost universal use of strong coffee by all ages are great causes of ill health. —*Health Culture.*

FOOD RULES FOR CHILDREN

Allow time for meals.

See that the food is thoroughly masticated.

Do not allow nibbling between meals.

Do not tempt the child with the sight of rich or indigestible food.

Do not force the child to eat against his will. Examine the food, which may not be properly cooked or seasoned. If good food is refused, merely remove it and wait until the child is hungry.

In very hot weather, give less food and offer more water.—W. Gilman Thomspon, in *Practical Dietetics.*

"When Easter comes, sweet blossoms lift
Their shyly hooded faces."

ALCOHOL NOT A FOOD

Certainly alcohol can not be regarded as an efficacious food for muscles, nerve cells, and the like. Not even in a narrow sense can it take the place of a force-generating foodstuff.

Alcohol greatly increases heat radiation, by dilating the blood-vessels of the skin which become reddened through this increased blood supply. This gives rise to the deceptive feeling of warmth, but the warm skin gives out more heat into the colder surrounding atmosphere, and the bodily temperature, according to abundant experimental proof, is actually lowered by the ingestion of alcohol.

All the pleasant sensations of physical and mental strength brought forth by moderate doses of alcohol are deceptive, and depend upon paralysis of the critical judgment and upon the momentary blunting of the sensation of fatigue. —Adolf Fick, M. D., Late Professor of Physiology, Wurzburg.

CAPACITY FOR WORK LESSENED BY USE OF ALCOHOL

The well known experiments of Frey in Sahli's Clinic, Berne, showed that so-called small doses of alcohol (one-fourth to one-half ounce), invariably lessen the capacity of normal muscles for performing work. Others have confirmed and strengthened his results.

Nor must we forget Kræpelin's 1,350 experiments which resulted in showing that all the intellectual functions examined suffered a marked depression after the ingestion of small and moderate, as well as large doses of alcohol.—John Madden, M. D.

ALCOHOL ESPECIALLY INJURIOUS TO CHILDREN

There is no known substance which can be compared with alcohol, whether given as a food or beverage, that will more positively destroy the growth and impair the vigor of the body. Given in childhood, its degenerative effects are more far reaching and more certain than at any other time of life. This damage may be masked, but it will certainly appear sooner or later. Mental disorders and individual peculiarities, marked by faults of nutrition and feeble resisting power to pain and fatigue, with defective reason and power of control in many cases, clearly date back to the damage in infancy from spirits. Digestive disturbances and many forms of nervous diseases have also been found to come from the same cause.—T. D. Crothers, M. D.

THE RECOVERABLENESS OF HUMAN NATURE

THIRTY years ago the pupils in the public schools of Massachusetts were the descendants of the Puritans, the Pilgrims, and other English-speaking people who came later to these shores. Today over sixty per cent of the nearly half a million children in the public schools, more than a majority of the future voters of the old Bay State, were either born or their parents were in Italy, Greece, Ireland, Poland, Russia, Finland, Germany, Denmark, Bohemia, Holland, Turkey and other far away lands. Almost every language and race are represented in these schools, while the sons and daughters of Massachusetts are found everywhere west of the Hudson, where they have helped to build the great commonwealths that have added to the glory and strength of our nation, and have helped to reproduce in them something of the Mayflower civilization.

But what of the future of Massachusetts and other states to which this tide of immigration is flowing? As we read that 33,000 immigrants are to land in New York this week, and remember that nearly 1,000,000 came last year and 4,000,000 in the preceding years, we ask, "Is not this an invasion? And what is to prevent the history of other invaded nations being repeated in our land?"

Rome did not found schools for the education of the children of her invaders in Roman principles and spirit. No other invaded nation but America has done it. Will such education make possible the absorption by the republic of this vast incongruous mass, with no loss of national, moral, mental, or physical strength? In searching for an answer to this question, we find one fundamental principle on which we may build with hope. It is what Rev. Dr. Storrs of Brooklyn called "*the recoverableness of human nature under right conditions.*"

As the sculptor sees in the unhewn block of marble the angel he will fashion from it, so the teacher who has true insight sees undeveloped possibilities in the child from another clime who has come to our schools to be fashioned into an ideal American citizen.

While the opposite is also true, the latent germs of all the virtues and graces are in the children of the immigrant, and will respond to skilful appeal. That is what we mean by the recoverableness of human nature. But note, this recoverableness is possible only *under right conditions*. The questions, what are these conditions, and do they exist, are momentous and fraught with national destiny.

Alcoholic drinks are in more or less common and approved use in the countries from which these new peoples come; that use is one of the causes of poverty and degeneracy in the lands from which they fled, and is here, as everywhere, a bar to the recoverableness of human nature.

Unfortunately, our civilization has not yet reached the era of America with no saloon, hence the immigrant and his children find in this new land the same soul and body-enslaving drinks. If opportunity here to earn more money than in the old world means more to be spent in drink, and more votes for the saloon, the greatest enemy to our free institutions, then every new immigrant is an added peril.

But while we have not yet closed all the saloons and thus removed their temptations, there is one feature of the alcohol question that is peculiar to this country. The law in America requires every public school which the immigrant's children attend to teach these children, with the laws of health, the dangerous nature and evil effects of all forms of alcoholic drinks and other narcotics. This law applies as well to the descendants of the immigrants that came 285 years ago as to those who are today just off the ship. This educational method, if properly conducted, is evolving the sentiment that will banish the saloon.

It is sometimes said that everything in this study depends on the teacher. As much depends on school superintendents and school boards whose duty it is to make out the courses of study, select the books for pupils' use, and order enough lessons to cover the subject from year to year. The teachers will do their part if they are given material to do with, and the time in which to do it.

Do school superintendents, school committees, school directors, and boards of education realize that in making ample provision for this study they are providing for the training of a coming army that will drive out of this land of the free its greatest enemy? Do they realize that history will pronounce such action that of far-seeing statesmen?

Do careless school officials realize that in failing to make the utmost provision for the pursuit of this study, with every possible help, including good courses of study and good books adapted to grade for teachers' and pupils' use, especially in the lower grades, they are thus leaving the enemy to train the home-born and foreign-born Americans now in the making in our public schools, on a question touching one of the most vital elements of our national life?

Never did the conditions of any age call more loudly to school officials for comprehension of the needs of the times, and for patriotism and statesmanship to meet those needs.

History is waiting to pronounce its verdict upon the work of the guardians of this form of

education, as it will be seen in the life and efficiency of the nation during this century.

MARY H. HUNT.

In America, the study of temperance physiology, which includes warning instruction against all narcotics, is compulsory for the pupils in all public schools, and in almost every state for all pupils in all such schools.

The tendency of some school superintendents, in spite of this legal requirement, to relegate this branch to the sixth and even more advanced grades is largely responsible for the cigarette smoking now alarmingly prevalent. Irreclaimable cigarette smokers have all too frequently begun the habit before they got the warning instruction that might have saved them, if it had been imparted through simple oral lessons in the primary years, and had been continued progressively through the grammar grades and first year of the high school, with such helps, including books adapted to grade, as they have in other studies.

We like water better than beer.*

The youthful cigarette smoker means a coming degenerate. Anything that will help prevent this fate is of vast importance. The school official who recently said, with a light wave of his hand, "It is a very trivial question whether or not fourth year pupils have books in temperance physiology," recalls President Roosevelt's description of the man unable to distinguish the difference between the important and the unimportant.

HEPATICAS

BY ARCHIBALD LAMPMAN

The trees in their innermost marrow
Are touched by the sun;
The robin is here, and the sparrow;
Spring is begun!

The sleep and the silence are over,
These petals that rise
Are the eyelids of earth that uncover
Her numberless eyes.

APRIL

BY NORA CHESSON

My father's the Sun and my mother the Cloud;
My courtiers, the daffodils, after me crowd:

My voice is the lark's voice, my pace is the wind's;
I waken the fir cones that in their rough rinds

Sleep, dreaming of summer and skies full of birds,
And lillies leap upward to hearken my words.

Dark alders behold me and lighten their green,
The bluebells surge upward the braken between.

I am Life, I am Youth, I am all that is dear,
And fragile, and swift in the sweet of the year.

I am hence, I am gone ere Earth says "She is here."

Blow, daffodil trumpets, blow long and blow loud—
I am April, the child of the Sun and the Cloud.

In a schoolroom the first primary grade was listening to a description of Columbus's first voyage to America.

The teacher reads:—"Queen Isabella sold her gems to help Columbus."

"Now children," she said, "who can tell me what gems are?"

Instantly Robert sprang to his feet, his hands waving frantically and his eyes flashing.

"Well, Robert?"

"Biscuits!" yelled Robert.—*Boston Herald.*

Food is cooked to render it more agreeable to the senses of taste and smell. Cooking develops flavors and odors not present in the raw state, and facilitates the process of mastication. Some foods are tough and hard and can neither be finely divided nor well mixed with saliva. Again, the warmth which is thus imparted promotes digestion by causing an increased flow of blood to the digestive apparatus.—*The Home Doctor.*

*See Primary Lesson. Page 119.

BOOK NOTICES

PHYSIOLOGICAL ECONOMY IN NUTRITION, By Russell H. Chittenden, Ph. D., LL. D., Sc. D., Professor Physiological Chemistry, Yale University. Frederick A. Stokes Company, New York.

The problem discussed in this book is one of great practical importance because proteid or nitrogenous foods are the most costly, and because their excessive use may mean serious overwork for the various organs of the body. If the man who thinks he must eat meat three times a day in order to do his work can be convinced that he is thereby imposing an unnecessary burden upon his health and working ability, as well as his pocketbook, the knowledge will be better than a legacy. And to the gouty, prematurely old sufferer from excess of beefsteak and lamb chops the good news ought to be equally welcome, especially as Professor Chittenden avers that one soon takes as much pleasure in simpler foods as formerly in a heavier diet.

The suggestion for these studies came from the experience of Mr. Horace Fletcher, who, a few years ago, through the habit of thorough mastication and insalivation of food, found speedy restoration to health and vigor, together with marked reduction in the amount of food needed to satisfy his appetite. He became an enthusiastic apostle of "the simple life," as applied to eating. Professor Chittenden tried a similar experiment with like satisfactory results.

Among them he records the following: Improved physical condition, disappearance of "rheumatic trouble in the knee-joint which had persisted for a year and a half, and of sick headache and billious attacks." There was greater appreciation of such food as was eaten, a keener appetite, and more acute taste with a thorough liking for simple foods.

The nitrogen of his reduced diet amounted to about a third as much as was previously taken, 40 grams of proteid food per day, instead of 118 grams the usually accepted standard, and on this diet Professor Chittenden did more work and led a more active life in every way, with greater comfort and less fatigue than formerly.

Besides the details of his own experiments, including daily menus and tables of results, Professor Chittenden's book contains accounts of similar experiments of several months' duration on three distinct types of individuals, eight of his associates in the university, representing mental workers; a detail of thirteen men from the Hospital Corps of the United States Army, representing the moderate worker of different nationalities and temperament; and eight trained athletes. The results with these twenty-nine individuals of widely varying manner of life were a verification of the experiences of Mr. Fletcher and the author, namely, improved health, working ability, vigor, and endurance on a diet containing about half the amount of proteid food usually thought to be necessary.

The final conclusion of the book is: "Health, strength, mental and physical vigor, and endurance can be maintained with at least one-half the proteid food ordinarily consumed; a kind of physiological economy which, if once entered upon intelligently, entails no hardships, but brings with it an actual betterment of the physical condition of the body."

Not the least valuable feature of the book is the actual menus which show the kinds, amount, variety, attractiveness and palatability of food possible in this reduced system of diet.

A MANUAL OF PERSONAL HYGIENE. Edited by Walter L. Pyle, A. M., M. D., Assistant Surgeon Wills Eye Hospital, Philadelphia. $1.50 net. W. B. Saunders & Co., Philadelphia.

This is the second edition of a deservedly popular book, revised and enlarged. Its aim is to show how hygiene and physiology may and should be applied to daily living. The editor has chosen eight physicians, each of whom has written upon a phase of the subject in which he is particularly interested, and compiled the results of their work. The whole forms a large amount of useful information on the body and its care. Physiologic details are overemphasized in some cases for the average reader, and in one or two instances the writer seems unfamiliar with the latest experimental evidence; but as a whole the book is a valuable contribution to existing literature on this subject. The chapters on Domestic Hygiene and Home Gymnastics, as well as the Appendix, are particularly helpful.

Massachusetts is indebted to the Committee on International Course of Study in Temperance Physiology for effective help in a critical hour.

PHYSIOLOGY TOPICS FOR APRIL

PRIMARY—Parts of Body Necessary to Life: Head and Trunk. Sense of Taste. Things not to be tasted. How the Body is fed. Kinds of Food. Table Manners.

INTERMEDIATE—Respiration. Skin and Cleanliness. The Body's Need of Pure Air. Body Waste and Repair.

ADVANCED—Body Building. Cells and Tissues. The Process of Excretion. Household Hygiene.

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With experimental work this book gives a connected outline of the processes which accomplish the maintenance of life in the body and of the rules of hygiene which it is necessary to follow in order to facilitate their harmonious action. Chapters are included upon the nature and action of bacteria in connection with infectious diseases, and also upon physical culture and gymnasium exercises.

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The School Physiology Journal

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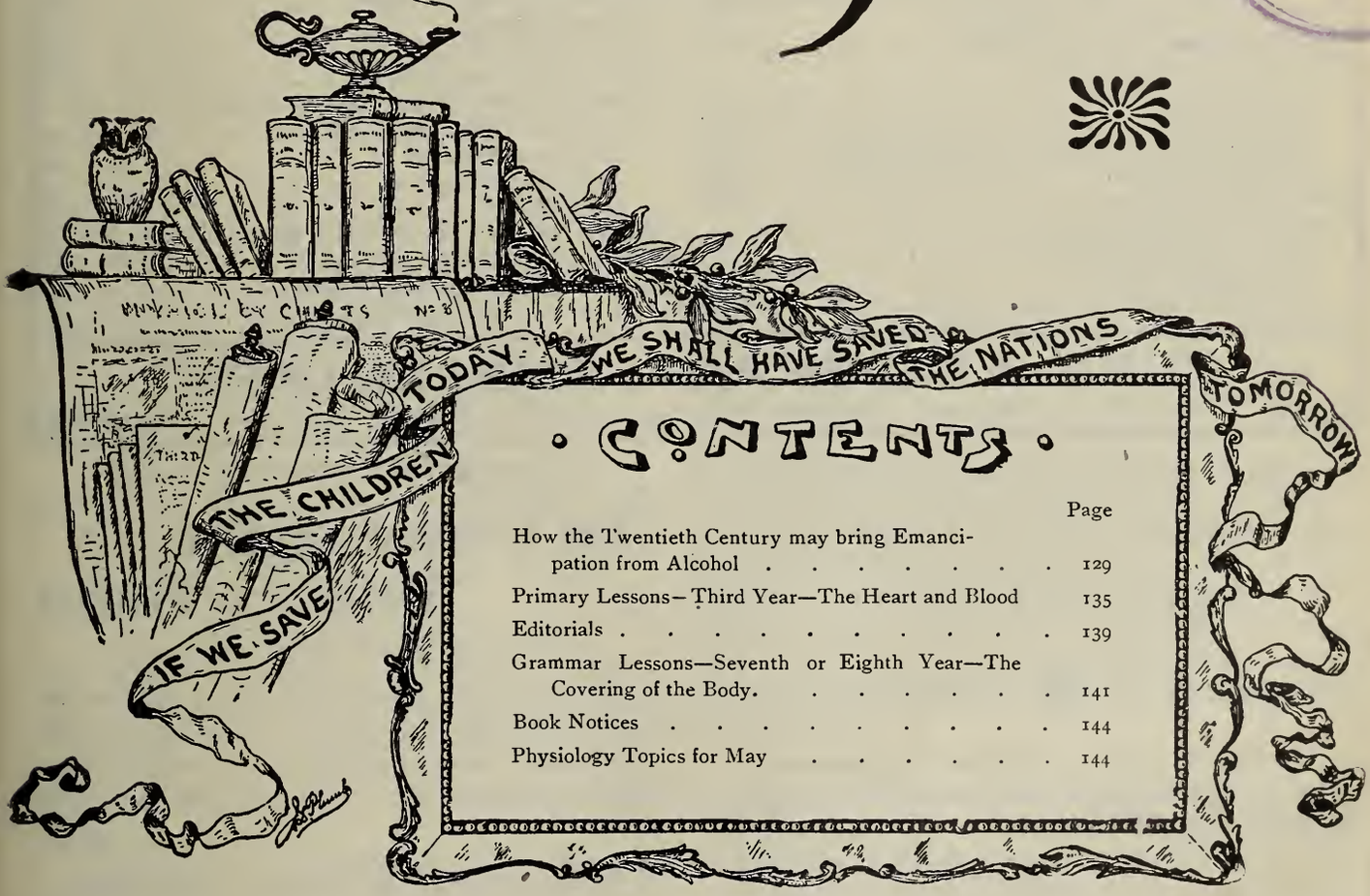

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BOSTON, MASS.
MARY H. HUNT, EDITOR

VOL. XIV. NO. 9
MAY, 1905

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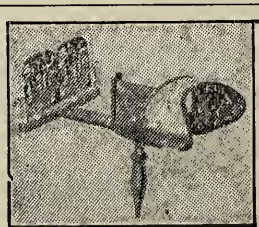

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School Physiology Journal

Vol. XIV *BOSTON, MAY, 1905* *No. 9*

A SONG FOR TO-DAY

BY LOUISE MANNING HODGKINS

GROWETH the morning from gray to gold;
Up, my heart, and greet the sun!
Yesterday's cares are a tale that is told,
Yesterday's tasks are a work that is done;
Yesterday's failures are all forgot,
Buried beneath the billows of sleep;
Yesterday's burdens are as they were not;
Lay them low in the soundless deep.

Share thy crust and ask no dole,
Offer the cup thou wouldst never drain;
Only he who saveth his soul
Loseth all that he fain would gain.
Smile with him who has gained his day;
Smile the gladder if, at thy cost,
It was his to win and thine to aspire;
It is his to-day who loved the most.

Pluck the flower that blooms at thy door;
Cherish the love that the day may send;
Cometh an hour when all thy store
Vainly were offered for flower or friend.
Gratefully take what life offereth,
Looking to heaven, nor seeking reward,
So shalt thou find, come life, come death,
Earth and the sky are in sweet accord.

HOW THE TWENTIETH CENTURY MAY BRING EMANCIPATION FROM ALCOHOL

BY MARY H. HUNT

SLOWLY through the ages human progress has made its way, sloughing off in each century some form of tyranny, and with each cycle of years gaining some new vantage ground as truth has been discovered and made known.

Progress may be defined as escape from the false traditions of the past and their consequences.

What, in this respect, will the twentieth century do for the human family?

MODERN SYMPATHY SEEKS TO REMOVE THE CAUSE OF SUFFERING

The false idea, descended from prehistoric times, that alcohol is a good creature of God, benevolently designed for human comfort and help, is responsible for more crime, poverty, misery, madness, and individual and national decadence than all other causes combined. It means something to the future that this fact is now to some extent realized, for when misery finds a voice there is hope.

Although human sensibilities have become to some extent blunted by the constant sight of the misery due to alcohol, which has been regarded as inevitable and due to the weakness of the drinker, it is true that twentieth century sympathies, while not less active in relief of human suffering, more than ever before inquire for and try to remove its cause. This search for causes has led during the last thirty years to extended and exhaustive scientific investigations in the laboratories of the world as to the nature of alcohol and its consequent effects on human life.

SCIENCE REVEALS THE NATURE OF ALCOHOL

Scientific research has proved beyond cavil that alcohol, instead of being as people supposed a valuable and safe drink if moderately taken, is in reality a narcotic poison which has the power when continually used, even in small amounts, to create the uncontrollable craving for more that may eventuate in the individual and race deterioration and consequent misery that it is the nature of alcohol to produce.

In other words, science shows that the evils of intemperance are due to the nature of the drink, rather than to the weakness of the drinker. It also teaches, as has been so well said by Professor Gruber of Munich, that "while some persons seem comparatively unsusceptible to alcohol, whether or not one is susceptible can not be foretold; he finds out only by playing a game of chance with his life, which is a dangerous experiment."

The testimony of science that alcoholic beverages are a cause of race deterioration in impairing physical, mental, and moral ability is constantly accumulating.

Hence, as the popular use of alcoholic drinks is the greatest peril facing our twentieth century civilization, the question for the thoughtful lover of humanity is, shall this civilization be limited, blighted, and ultimately destroyed by a chemical poison which the people are drinking through ignorance of its real character and the danger of beginning its use?

A PERILOUS MISTAKE THAT MUST BE CORRECTED

This mistake of the people in thinking that alcohol in any form and amount is a safe bever-

age is the beginning of this peril. As long as they believe it is safe they will drink it, because they like it, and consequent ruin will follow. This mistake must be corrected by education as to the facts ; education that will reach *all* the people in the plastic period of childhood before appetite for alcohol is formed. After such a craving is established, we come too late with our warning instruction.

The world has learned by long and bitter experience what science confirms concerning the tenacity and strength of the alcohol craving, combined with the power of this substance to weaken the will that should control it. It is folly to talk of self-control in the use of a substance whose nature it is to destroy self-control.

THE POWER OF TRUTH

The events that in the perspective of history are seen to have been greatest in their influence on the lives of nations have not been so much reigns of kings and wars of conquest, as the decisions that have given the truth to the people. The imperial order of the sixteenth century that gave the open Bible to all England, meant more than almost any other event in English history to that country and to the subsequent English-speaking world.

In the thirty-second verse of the eighth chapter of John there is a marvelous promise to those who "continue in his word" :

"Ye shall know the truth, and the truth shall make you free."

There is here the promise that truth shall reach individuals and nations that "believe" and continue in the word, and that such truth shall mean freedom from the perils that result from lack of knowledge of the truth.

Often unrecognized at the time, but seen in the movements of history, there is manifest something more than human force that has guided the march of truth through the ages.

A PHENOMENAL MOVEMENT

We are too near it now to recognize its full import, but the Christian scholar who shall write the philosophy of the history of the twentieth century from the standpoint of human development will see something like the invisible but controlling power of him who said, "I am the truth", moving and guiding the 15,000 physicians of England, Scotland, Ireland and Wales, practically the entire medical profession of the United Kingdom, who one year ago almost simultaneously signed a petition for the physiological education of all the children of those countries against alcoholic drinks. It is phenomenal, without parallel, except in the legislative action in this new land of state after state, forty-five in all, and the National Congress, which has put 22,000,000 American children of school age under temperance education laws.

The time is evidently approaching, somewhere in the history of this new century, for the eviction of alcoholic drinks from human habits and traffic. These drinks have been tried at the bar of science and experience and unqualifiedly condemned.

The truth is revealed. That part of the promise is kept to us. But we are to be its almoners. God never does our part. What that part is concerning this truth is the practical question for this hour.

WHAT SHALL BE TAUGHT

The civilized nations seem to be agreed that the public schools shall be the medium for spreading the truth on this subject, because they are under public control and reach the largest numbers. The pending questions now are, what shall be taught, to whom, and by what methods or instrumentalities.

The Committee on Physical Deterioration in its report to Parliament, July 10, 1904, said: The Committee believe that more may be done to check the degeneration resulting from drink by bringing home to men and women the fatal effects of alcohol on physical efficiency, than by expatiating on the moral wickedness of drinking."

For the pupil to understand the "fatal effects of alcohol on physical efficiency", he must know something about the physical structure of his body; for instance, that he has a brain and nerves, and something of the normal action of each, in order to understand how alcohol and other narcotics, impure air, and unhygienic habits will injure those organs, and thus his power to work.

Hence, some knowledge of the structure of the body, or physiology, is an essential basis for the study of hygiene which includes the study of the effects of alcoholic drinks upon "physical efficiency." In other words, the science of temperance is the physiological reasons for obeying the laws of health that teach abstinence from alcoholic drinks and other narcotics, and is closely related to other laws of hygiene. The subject is a large one, capable of amplifications and subdivisions that will furnish new and interesting matter for the guidance of the child during the habit-forming years of school life.

In answer to the question, what shall be taught, we reply: The fallacies that lead to the use of alcoholic drinks must each and all be met by the scientific truth that refutes them if this teaching is to prevent intemperance.

For instance, the fallacy that alcohol is a special provision of God for human comfort, which is a prime cause of its use. This must be met by the findings of science, that it, alcohol, is a product of fermentation that changes a food to a poison. We have seen that enough physiology is needed in this subject to show that human life is based on definite laws. The physiological effects of alcohol upon the various organs of the body and the consequences of disobeying other laws of health, if taught in connection with the description of those organs, have been found to be the most logical order of presentation; consequently this plan gives the best results.

From the first, those leading this movement in America have said, "This instruction for the children of this nation must be as radical as the whole truth. There must be no attempt 'to heal slightly the hurt of the daughter of my people.'"

Futile will be the endeavor to avert the individual and race deterioration that inevitably follow in the wake of the use of alcoholic drinks, if scientific temperance teaching in the public schools is confined to warnings against the *excessive* use of distilled liquors, and the great fundamental fact is ignored that alcohol is a narcotic poison, having the power, when taken *even moderately* in the fermented liquors as wine, beer, and cider, to create an uncontrollable and destructive appetite for more. The consequences of broken natural law can not be averted.

NECESSARY MEANS FOR TEACHER AND PUPIL

The facts constituting this science are derived from many other sciences. Among these are anatomy, physiology, hygiene, chemistry including fermentation, therapeutics, toxicology, bacteriology, pathology, psychology, and pedagogy with child study.

No teacher can roam over so vast a field to select and secure the necessary matter for each lesson, and adapt it to the comprehension of his special pupils; hence, the supreme importance of a carefully graded syllabus of topics showing what should be taught each year, and of graded manuals of instruction containing necessary truths concerning those topics.

The distinguished British Committee, Sir William Broadbent, chairman, representing the 15,000 medical petitioners for this study, have recommended and sent out a syllabus of topics on this subject for the schools of the United Kingdom based on the American Course of Study.

This American Course is the result of twenty years' experimental study of what must be taught, how it should be taught, and to whom, in order to secure a nation of strong, achieving people, and insure for them a future of intelligent sobriety.

Now let these same physicians see that there

"Groweth the morning from gray to gold;
Up my heart, and greet the sun!"*

*Courtesy Boston & Maine Railroad.

is provided for all pupils able to read in the public schools of England, Scotland, Ireland, and Wales, graded series of text-books that will tell the pupils in each form or standard what the truths are that they should learn concerning the topics specified in the syllabus for that standard. As already intimated, it is useless to expect teachers to teach this subject successfully, unless pupils able to read have progressive manuals of instruction in their own hands. Error and inadequate information result without such authoritative sources of instruction for the pupils. Manuals of instruction are also an effective method of educating the teacher in this, to him, new study.

Instruction in the primary years before pupils are able to read must of necessity be oral. But the primary teacher should have as a guide in this study an oral lesson book well illustrated with stories and pictures, and containing such lessons as will interest and instruct the child.

It is to be hoped that Great Britain's medical men, with their wide knowledge and opportunities for keeping abreast of scientific investigations, will constitute themselves a guard of honor for the truths that are to be taught the children, and that they will not let pass without effective public challenge and correction any attempt to include in these school text-books erroneous statements or half-truths that condone or recommend moderate drinking.

WHO SHOULD BE TAUGHT

When should this instruction begin? As its object is to guide in the formation of right physical habits, it should begin as soon as the school can reach the child, for he is forming new habits each year, and by every law of child nature and every principle of education instruction that is to shape habits must begin and keep pace with habit formation. This does not necessitate senseless repetition, nor teaching little children difficult subjects in long, technical words, but it does call for simple truths which the little child can understand, and the addition of new facts each year. Such instruction will mean graded, progressive information adapted to the child's developing comprehension, beginning with and continuing through the three primary and five grammar grades or standards. In America, the subject is completed in the first year of the high school.

MINIMUM NUMBER OF LESSONS

How much time will this study take in the already crowded curriculum? By careful experimental computation we in America have found that a maximum of 290 lessons below the high school, distributed through the three primary and five grammar school years will cover the subject without repetition other than is necessary for review, and this is the number of lessons the best laws in America specify.

That this is not too many lessons is evident from the fact that from 600 to 900 lessons in geography are often given in the same time.

It is certainly as important to the child and to the state that he should know why he should not drink beer as to be able to name every river in China.

MINIMUM TIME

These lessons should average from 10 to 15 minutes in the primary and about 30 minutes in the grammar grades, amounting in all to about 112 hours distributed through eight years below the high school, 12 hours in the primary and 100 in the grammar classes.

This is the time we estimate for the whole subject, physiology, hygiene, and temperance.

The temperance matter, including tobacco and other narcotics, we estimate at about one fifth of the whole, amounting in all to about 22 hours to be distributed through 8 years. On this basis, the more recent laws in America now require the text-books for lower grades to give one-fifth of their space to the treatment of alcoholic drinks and other narcotics, those for high schools twenty pages.

The reason for the larger proportion of time given to physiology is that the more clearly the child understands and is interested in the working of his bodily machine the keener will be his appreciation of any damage done to it. Thus when the older pupil has learned something of the fine control exercised over the muscles by the nervous system, he will quickly see the disastrous consequences of benumbing the nerves with alcohol. He will understand at once why the workman can not accomplish such good work nor so much of it, when his nerves are even slightly weakened by drink. This of itself constitutes an appealing argument which the child will remember.

We have found that we get better results when this study is pursued consecutively at the rate of three lessons per week for ten weeks in the primary and four lessons per week for ten weeks in the grades above, than when only one lesson per week is given running through the whole school year. The subject is thus kept fresh in the mind while it is being developed, and less time is required for recalling and reviewing. With one lesson a week pupils are liable to forget the points of the last lesson and thus lose their interest.

A DEFINITE PLACE IN THE CURRICULUM

If we are to expect definite results from this

study in shaping the lives of individuals and nations, there must be a definite time and place in the curriculum for enough lessons to cover the subject. The scheme of study should be so planned that every child in all the standards of all the public schools will get this progressive instruction from year to year as he is able to comprehend it.

An American teacher recently said, "Incidental teaching is apt to be accidental." Accidental teaching concerning such an enemy as alcohol will not save a nation from its ravages. We are quoting in America Sir Victor Horsley's recent saying:

"We ask only that the laws of health coupled with the subject of temperance be regarded as on all fours with a subject like history, and if there is to be a reorganization of the time table it could be perfectly well done by teaching a little less history.

"We do not want any indirect treatment of this subject, for that is not the way to approach one of the great subjects of the nation.

"The medical profession has adopted in very large measure the American system and is united on this line, namely, that there must be this teaching, that every child ought to receive it, and therefore that it must be of the nature of compulsory teaching."

"Sing ye! join the chorus gay!
Hail this merry, merry May!"

Tests or examinations for promotion have been found, in America, to be an important matter, because teachers and pupils will take more interest and put forth more effort in a study in which promotion for the pupil depends upon passing an examination.

OPPOSITION FURTHERS THE SPREAD OF TRUTH

In America, attempts to minimize the truth and the extent of this teaching are not infrequently made by those influenced by appetite and interest. Such attempts have resulted in defenses and discussions that have been widely educational in favor of total abstinence. This was notably so in the case of the *Report of the Committee of Fifty*, a two-volumed effort to overthrow the compulsory physiological total abstinence teaching given in the public schools.

The *Report of the Committee of Fifty* was so unjust in its attack upon scientific temperance instruction, and its purpose to break down with false accusations a system of education upon which the American people depend for a future citizenship of intelligent sobriety was so obvious that the United States Senate, on motion of Senator Gallinger, M. D., voted unanimously, February 27, 1904, to make a Government Document of the *Reply*, a pamphlet which points out the falsities and absurdities of that part of the *Report of the Committee of Fifty* which attacks scientific temperance instruction. This document has also been widely used by scholars, physicians, lawyers, clergymen, in defense of total abstinence as they have had opportunity.

HOW TO GET THE STUDY INTO THE SCHOOLS

That is the next practical question. The petition signed by your 15,000 physicians will be a powerful argument. The moral sentiment of every community will have to be brought to bear upon the local school boards, objections answered, and persistent efforts kept up in each locality until it is done. Every failure will be an evidence of the need of an act of Parliament to make the study of this subject a permanent part of the school code of the United Kingdom.

THE FEDERATION OF THE WORLD AGAINST ITS GREATEST ENEMY

About twenty-five years ago, one of England's great men of science in an address given in Oxford, after describing his conversion to total abstinence as a result of his experimental laboratory study of alcohol, said:

"If I can be moved by this new light to see actual truth and to be influenced by it, so can

all . . Especially would I urge that the young should be thus impressed; that in every Board school of England there should be a class beyond the three R's,— a class where the claims of temperance should be impressed on the scholar with all the force of scientific instruction. If, from the present conference, this one suggestion can find its way into practical working, we shall not have met today in this great seat of learning in vain."

This appeal from Dr. Richardson found an echo in the new world, where his advice has been put to the test on a mammoth scale and found to be good. America's public schools have "classes beyond the three R's which are being taught temperance with all the force of scientific instruction." This instruction is permeating and shaping the destiny of the nation.

His Majesty, King Edward VII, is said to favor an Anglo-American alliance. In no other direction could an alliance do more for the strength of both nations than for each to contribute its quota of experience and science for the overthrow of alcohol, through legally required compulsory scientific temperance instruction for all pupils in all the public schools of both nations. Not far in the future there may be a triple alliance, with Germany also joining hands in the same beneficent effort.

It seems not improbable that the rapidly rolling years will ere long bring a federation of all the nations in a campaign of scientific temperance education against alcoholic drinks and other narcotics. When that comes the final overthrow of alcohol, the world's greatest tyrant, is sure, and as surely will the twentieth century witness the coming of the day of the clear brain, the strong hand, the true heart which will usher in the Kingdom of the Highest.

Read before the National Convention for the Promotion of Temperance Instruction among the Young, Greenock, Scotland, March 24, 1905.

CIGARETTES AND HEART DISEASE

THE statistics in regard to heart disease among boys, caused by the use of cigarettes, are simply appalling. One hundred and fifty boys were recently examined in Chicago as to their physical qualifications for positions on the various high school athletic teams and nine-tenths of them were rejected because of the tobacco heart. It is probable that a large proportion of the boys examined were not smokers.

In a preliminary examination for West Point, one-fourth of the candidates were rejected for the same cause. The army and navy records present a fearful list of heart failures from the same evil habit.

It is also a fruitful source of insanity, as many medical men testify. Every teacher of boys can adduce instances of lads ruined mentally, morally, and physically by the terrible habit grown into a vice. The cigarette fiend is the boy who has become a complete slave to his appetite. Ninety-two per cent of the boys in the Pontiac reform school are cigarette smokers, and the majority of these are "fiends." The reform schools for girls show similar facts. —PRINCIPAL BOLTWOOD in the *Advance*.

Lady (to applicant for position of nursemaid): "Why were you discharged from your last place?"

Applicant: "Because I sometimes forgot to wash the children, ma'am."

Chorus of Children: "O, mamma, please engage her!—*Tit-Bits*.

WE HAPPY POOR

BY RUTH ALLEN BENEDICT

A PERFECT day, a gem of days,
Isset in the year's crown for me.
Would it be richer were I rich?
What more than perfect could it be?

Oh, clouds that fleck the deep blue sky
And stir with every wandering breeze,
Would I be happier did I know
That you were passing o'er my trees?

It needs not wealth to comprehend
That May is here and June at hand.
The season's pageant is a show
Free to the lowliest in the land.

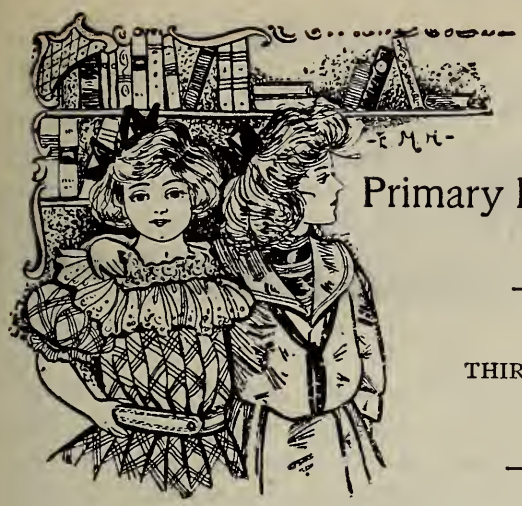
For me, I do not have to toil
With gardeners, florists, and the rest,
For me the first May blossoms spring,
My woodland treasures are the best.

I claim the ground I press as mine,
The primal heritage of man,
All things are ours, did we but know
The lavishness of Nature's plan.

There are no bounds to my domain,
No woods or hedges prison me,
The wide horizon bounds my land,
My kingdom's all that I can see.

Others may guard their title deeds,
And own indeed the outward part,
Why should we envy, if we may
But bear its beauty in our heart?

All things are ours, we fortunate
Securely may the world defy.
Ours is man's heritage of joy,
The kingdom of the seeing eye.



Primary Lessons

THIRD YEAR

THE HEART AND BLOOD

IN taking up these topics, we are dealing with organs that are concealed within the body and that can not be seen or touched by the children.

This is a handicap at the start, but it can be overcome by the skillful teacher and lessons on the heart and blood made as interesting to young pupils as talks on the external and visible parts of their bodies. Indeed, the touch of mystery involved in talking about organs that are out of sight often makes the work more attractive.

Here, as always, we must begin with the known. Every normal child in this grade knows that he has a heart. He has laid his hand over it and felt it beat. At some time or other, also, he has cut his finger and seen the red blood gush out.

These universal experiences lead directly to the questions: What is the heart for? Why do we have blood in our bodies?

When the child has learned what he can understand of the wonderful work of these parts of his body, he is ready and anxious to know how they should be cared for to keep them strong and healthy and able to do the best possible work. Last of all, he needs to find in what ways they may be harmed, that he may not make a mistake and do anything to injure these important organs.

(1)

THE BLOOD A FOOD CARRIER

Study of the blood and heart naturally follows lessons on food and digestion. In the present lesson, therefore, it is taken for granted that the children have already had class talks on those subjects and are now ready to learn how the food they eat gets from the mouth and stomach to every part of the body that needs it.

The teacher will perhaps begin in some such way as this:

We found yesterday that every part of our bodies needs food to make it grow. But the food we eat goes into our mouths and stomachs.

How does it get to our hands and feet and to all the other parts of our bodies after we have swallowed it?

Let us think first how we get from one place to another when we want to travel.

Ask some of the children in the class who have been on a journey to tell how they went, —whether by steam or electric cars, in a wagon or automobile, or by boat.

There are no cars or wagons in our bodies to carry the food from place to place, and no rivers or lakes for it to sail on, but there is a stream of something always flowing through the body, and this takes the food wherever it is needed.

When you cut or prick your finger or any other part of your body some of this stream runs out. What is its name?

It is not water, and does not look like water. What color is it?

Every boy and girl who lives in a city knows how the water that people use gets into their houses. It comes through pipes, and runs out when they turn a faucet.

The blood stream in our bodies flows through pipes, too. Some of these pipes are quite large, and others are so very small that you could not even see them unless you looked through a magnifying glass.

If you look at your hand you can see some of them through the skin. These are about as large as a knitting needle. By and by we shall find out what makes these little pipes look blue.

It takes a great many blood pipes to carry enough food so that every part of the body will get as much as it needs, and the very smallest ones lie so close together that you could not put even the point of a very fine needle between them without piercing one or more.

Because some of the blood pipes that carry food through the body are so small, you can see that the food too has to be made very fine, or it would fill these little pipes so full that the blood could not move.

Where is the best place to make our food fine?

There is only one part of the body that has teeth, and we must see to it that the mouth does not shirk its work when we eat, but grinds up all the food we put into it as fine and small as it can. Then it will be easy for the stomach to do its part in getting the food ready for the blood to carry.

(2)

THE BLOOD A PURIFIER

Besides carrying food to all parts of the body, the blood has a great deal of other work to do.

As it travels from one place to another it picks up little wornout particles of the body that need to be got rid of, just as a good housekeeper picks up all the rubbish she may find in any room in her house.

The blood pipes that carry this waste matter are called veins.

Some of the veins are so close to the surface that we can see them under the skin. Who can find a vein in his own hand? Where else can we see a vein?

Let the children trace the course of some of the most prominent veins in the hand and arm and forehead as far as they can.

What is the color of the veins? What is the color of your blood as it runs out when you cut your hand? Tell the children that the reason the blood in the veins looks dark and bluish is because it is mixed with so much waste matter from different parts of the body.

There must be some way to clean this dirty-looking blood and get rid of all the wornout particles of the body that it carries, or we should all get sick.

What does your mother do when the house still looks dusty after she has swept and put it in order?

You have all seen her open the windows and doors to let the fresh, pure air blow through the rooms, and you know how sweet and clean they smell afterward.

We can clean the blood in our bodies in the same way.

There are two sets of windows in our bodies, one to see out of and one to let the air in. Point to the windows through which the pure air can get into our bodies. There is no glass in these windows, and they are open all the time to keep our bodies well aired.

The next thing we want to find out is where the pure air goes after we breathe it into our bodies through these windows.

Let us all rise and stand as tall as we can.* Put your flat hands on your chest and take a long breath.

What part of your body moves? What makes your chest move? Does it grow larger or smaller when you breathe in as much air as you can? Why does it grow larger?

A great many little blood pipes go the lungs, the part of our bodies that makes the chest swell out when we take a long breath. Every one of these blood pipes carries to the lungs some of the dark, dirty blood it has collected in the body, and the pure air it finds there cleans it up at once and makes it again a beautiful bright red.

Then it is ready to be sent all over the body once more, and wherever it goes it carries some of the pure air it got in the lungs, making every part feel bright and fresh.

(3)

THE HEART A PUMP

There has to be something in our bodies to keep the blood moving in all the little pipes that take it from one place to another, carrying to each the food and pure air it needs, and taking away the waste particles that need to be got rid of. We must find what this something is.

How many of you have seen a pump? What was it used for? Perhaps it was over a well, and when it was used it drew the water to the surface from a long distance under the ground.

Every one of us has a kind of pump in his own body. It pumps blood instead of water, and sends it all over the body, to the very top of the head and way down to the tip of the toes.

It works just as well in a man who is six feet tall as in a tiny baby, and it never stops as long as we live.

We can not see this busy little pump, but we can feel it beat as it does its work. Which of you can find this little pump that I am talking about in your own bodies?

Show the children just where to place their hands, if they can not do it without help.

Every time we put our hands over the heart we find it hard at work. It does not stop when we go to sleep, or when we are too busy to think anything about it. Is it not a faithful little servant?

Another wonderful thing about the heart is that it can do two things at the same time. It sends impure blood through little pipes to the lungs to be made clean and pure again, and it sends fresh, pure blood all over the body.

It can do this because it is really like two hearts fastened together. Both of them are about as large as your fist.

Draw a picture of the heart on the board, coloring the right side blue to represent the impure blood ready to be sent to the lungs to be made clean, and the left side bright red to represent pure blood ready to be pumped all over the body by the heart.

The children may copy the sketch for a drawing lesson, using colored chalk or water colors.

(4)

WHAT WE CAN DO FOR THE HEART AND BLOOD

If we tried, we could not do the work either the heart or blood does for us every day, but we can make it easier for them to do their work for us.

One thing we can do to help is to give them a chance to rest when they are tired.

*See picture on opposite page.

Have the children place their hands over their hearts and feel them beat as they sit quietly at their desks. Now let them run as fast as they can for a short distance, and then place their hands again over the heart.

Does it beat slower or more quickly than before? Every time we run or jump or take any kind of exercise we give the heart extra work to do.

This does not hurt the heart. It does it good if we are well, but it needs a chance to rest afterward.

The heart rests a little between every two beats; it never stops entirely. When we are asleep it beats more slowly than when we are awake, and thus gets more rest between beats. This means we ought to go to bed early, to give this busy little worker a chance to rest as much as it can after its work during the day.

"Let us all rise, and stand as tall as we can."

What can we do for the blood which does so much for us? We can give it good food to carry to every part of our bodies, and all the pure air it needs.

Find what the children think is good food, and correct any wrong ideas they may have.

Bring up the candy question, and find what sweets and how much the children are eating.

Tell why cheap candy is harmful. It is often made of impure and injurious substances which hurt the body instead of helping to make it strong.

If one can not afford good candy it is better to eat sugar or honey, and in any case only a little is needed.

Take up other foods of which children are likely to eat too freely, and talk about them in the same way, showing that the blood is hindered in its work if too much of any kind of food is eaten.

Tea and coffee do not help the blood do its work. They do not help the body grow or make the body stronger. What better drinks can we think of that do give the body just what it needs?

There are other drinks that are very bad for the blood and the heart. They make the heart beat too fast. Sometimes they thicken the blood so it can not flow easily through the little pipes, and sometimes they make it too thin.

Do you not think such drinks are pretty good things to leave alone? Now we must know what they are. I will write their names on the board for us all to remember.

Beer is one kind of drink we must not touch. Wine is another. Cider is another. All of these drinks have alcohol in them, and the alcohol is what hurts the blood and the heart.

There is something else that weakens the heart that we need to know about. Something that boys sometimes light and put into their mouths. Who knows what it is?

Perhaps they think it will make them more like men to smoke cigarettes, but it never does. It is much more likely to give them poor blood and weak hearts and keep them small and thin and sickly. The boy who wants to be tall and strong and healthy never begins to smoke.

AUTHORITATIVE QUOTATIONS

ALCOHOL DESTROYS RED BLOOD CORPUSCLES

Alcohol poisons the blood, arrests development, and hastens the decay of the red corpuscles, there being also a loss of power, by a decrease of vitality in the blood discs, to become red when exposed to the air in the lungs.—Drs. Virchow and Boecker.

ALCOHOL TENDS TO HARDEN THE BLOOD-VESSELS

Alcohol acts detrimentally upon the blood corpuscles and fibrinous elements of the blood, producing a ragged or cogwheel margin of the former and ready coagulation of the latter, with hardening of the coats and consequent loss of elasticity of the blood-vessels, thus producing the most favorable conditions for plugging of the capillaries.—C. D. Dowkoutt, M. D.

ALCOHOL LEADS TO DISEASE OF THE BLOOD-VESSELS

Whenever alcohol is imbibed it leads to

sudden and unnatural expansion of the systemic blood-vessels, with an increased and uncalled for flow of blood to the organs, which unduly excites the functions of these organs for the time being, and which is followed by a corresponding reaction. If this vascular excitation is often repeated, a time must inevitably come when structural changes will occur in these overwrought blood-vessels and in the organs they supply, and thus the foundations of disease are laid—disease which progresses slowly it may be at first, but nevertheless surely, until the victim is a helpless wreck, like some shattered ship on a lee shore.—RINGROSE ATKINS, M. D.

ALCOHOL OVERWORKS THE HEART

It has been supposed by many that because alcohol increases the number of heart beats that organ is doing a larger amount of work. On the contrary, the vaso-motor paralysis reduces blood resistance in the vessels, and the weaker the heart gets, as a rule, the more frequent are its beats; in fact, the quickening of the beats means not increased energy, but the embarrassment of weakness.—PATRICK W. O'GORMAN, M. D.

ALCOHOL TENDS TO HEART DISEASE

Alcohol plays an important part in the production of affections of the heart and blood-vessels,-cardio-vascular disease as it is called.—T. K. MONRO, M. D., AND J. WAINMAN FINDLAY, M. D.

Sir Thomas Barlow has recently declared that port wine was not, as was supposed, the milk of the aged; it tended to produce cardiac weakness, muscular and rheumatoid pains, and deterioration of the fine arterioles and blood-vessels.—*British Medical Journal*, Apr. 1, 1905.

TOBACCO CAUSES OVERWORK OF THE HEART

Professor F. L. Washburne, of the Oregon State University, finds from his experiments with the sphygmograph that while the normal pulse beats 17 times in one revolution of the cylinder, while the person is smoking a cigarette it beats 22 times. What wonder that the general health is interfered with by such abnormal work being forced upon the heart.

TOBACCO IMPAIRS THE ACTION OF THE HEART

Tobacco impairs the action of the heart, renders vision uncertain, deranges hearing, causes vertigo.—DR. STILLE.

TOBACCO IMPAIRS TISSUE

Tobacco contracts the minute vessels of the arterial circuit, resulting in impaired nutrition, especially of nerve centers; by causing irregularity in the supply of blood, it degrades tissue.—SIR B. W. RICHARDSON, M. D., F. R. S.

SMOKER'S HEART

Smoker's heart is a disease recognized by all physicians, and is far more common than is supposed. The action of the heart is so uniformly altered that a skilful physician would scarcely fail to detect out of one hundred men all who smoked to any extent daily, simply by putting his ear to their chests.—CHARLES H. SHEPARD, M. D.

SAVED HIS HAND

A young laboring man was brought to a certain hospital with a badly lacerated hand. He had fallen upon an old cotton hook, and it had gone entirely through the palm of his hand carrying with it rust and dirt. The wound was kept open so it would suppurate freely, and be readily cleansed.

As time passed on the hand became very much swollen, turned black, and the surgeons watched carefully for signs of blood poisoning, fearing that the entire hand would have to be amputated to save the life of its possessor.

These signs not appearing, it then became a question whether more of the hand could be saved than the thumb and first two fingers. As the hand became no worse, the surgeon delayed operating on it, and after a time it began to mend, and finally healed entirely.

"Young man," said the surgeon to the patient, as the danger was passing away, "do you use alcohol in any form?"

"No, sir."

"Do you use tobacco?"

"No, sir."

With a wave of his hand and a nod of his head, the surgeon murmured,

"That is what has saved your hand."

—*Temperance Cause.*

"A joy for every day
That stirs the heart to count its joys in May!
Now Fear and Doubt take flight,
Borne down the season's stream;
Grief grows a shape of light,
And melts a tender dream!
Now but to be alive is boon supreme—
A joy for every day in joyful May!"

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"The valley rings with mirth and joy;
Among the hills the echoes play
A never ending song
To welcome in the May."

SPECIAL POINTS IN SCIENTIFIC TEMPERANCE INSTRUCTION

PRESENT instruction concerning the nature and effects of alcohol upon the human system, as found in the indorsed school physiologies, is based upon the findings of modern scientific investigation. This teaching has not always been correctly represented in the criticisms that have been made upon it, and recently the objection has been raised that some of the points emphasized are not yet "settled."

ALCOHOL A POISON

The present teaching of the indorsed physiologies in regard to alcohol is that it is a poison, because it corresponds to the established definition of a poison, and because it is so classified in standard works on poisons almost without exception. One of the recent treatises on poisons, that of Winter Blythe, says, "If we were to include in one list the deaths indirectly due to chronic as well as acute poisoning by alcohol, it would stand first of all poisons in the order of frequency."

Certain alcohol defenders have recently started the claim that "In small quantities, alcohol is not a poison." This is contrary to the teachings of writers on poisons, medical jurisprudence, and other branches of medicine. Dr. B. W. Richardson taught that the nature of a substance depends upon its quality, not its quantity. Dr. R. K. Koppe, in his report to the Russian Commission, said, "The chemical nature of a substance can not change with the quantity." Casper's *Forensic Medicine* relates a case of poisoning tried in the higher courts of Germany where it was held that "A poison is any substance which from its quality alone is fitted to injure health. The amount given does not enter into the consideration."

ALCOHOL A NARCOTIC

The present instruction as given in the indorsed physiologies affirms that alcohol is not a stimulant but a narcotic. This is in accordance with the teaching of Professor Schmiedeberg, Director of the Pharmacological institute at Strassburg and for many years co-editor of the *Archiv fur Experimentelle Pathologie und Pharmakologie*, and of Professor von Bunge, author of the standard, classical work on Physiological Chemistry and professor of that subject in the University of Basel, Switzerland. Among the medical men in this country who are now teaching in accordance with this opinion are Professor Cushny, of the University of Michigan, and Professor Abel of Johns Hopkins University, who says, "Alcohol as such, that is, when it is introduced into the circulation with the avoidance of local irritation, is not a circulatory stimulant."

ALCOHOL NOT A FOOD

The indorsed physiologies affirm that alcohol is not a food, using the word in the sense in which people ordinarily understand it, not in any so-called "academic" or "technical" sense. In this, the instruction is and has been in accord with the teaching of the highest medical authorities, from that of Professor Fick, of Wurzburg, who taught that although alcohol is oxidized in the body it is not therefore food, down to the latest utterance of scientific opinion on this subject, that of the English Committee on a course of study for the schools of the United Kingdom. This Committee included in their list of topics, "Alcoholic drinks—why not classed as foods."

ALCOHOL NO AID TO DIGESTION

The present instruction, which is entirely from the hygienic standpoint, and therefore foreign to prescriptions for the sick, seeks to correct the popular idea of taking alcohol at meals "as an aid to digestion." It shows that the most careful experimentation, such as that of Professor Chittenden of Yale, has demonstrated that alcohol retards instead of hastens digestion. Hence, the idea of taking it as an aid should be corrected. This warning is also especially necessary since other medical writers agree with Professor Bracken of the University of Minnesota, who says in the *International Clinics*, Oct. 1898, "The more or less constant use of alcohol will produce congestion of the mucous membrane, and faulty gastric secretion."

VARYING EFFECTS OF ALCOHOL

The indorsed physiologies make no attempt

to teach the consequences of taking alcoholic liquors "in excess," because no one can tell what "excess," is, and the term implies that there is an amount that is not too much. They teach, as does Professor Welch, of Johns Hopkins University that, "In one way or another most of the organs and tissues of the body may become the seat of morbid changes attributable to alcohol." They do not state how much alcohol is necessary in every case to cause these diseases, because the amount varies with the individual and with different conditions of the same individual. Neither do they state that all these diseases appear in each and every victim of alcohol; but they show, as does the late Professor Martin of Johns Hopkins University, that while "Probably no one individual ever suffered from all the diseased states produced by alcohol, all habitual drinkers, sooner or later, experience one or more of them."

"And does it not seem hard to you, when all the sky is clear and blue,
And we should like so much to play, to have to go to bed by day?"

THE MOST MODERATE DRINKING UNSAFE

The indorsed physiologies show that the most moderate use of alcoholic drinks is unsafe, because alcohol has the power to create an almost irresistible craving for more. This fact is so generally admitted by the medical profession that it is superfluous to mention authorities; but one of the most recent utterances on this point is so clear and emphatic that it is worth quoting. The Boston *Medical and Surgical Journal*, February 18, 1904, contains an article by Professor Benedict, of Wesleyan University, on "Scientific Aspects of Moderate Drinking," in which he quotes a physician with a large practice, an instructor of twenty-five years standing in one of our largest medical schools, as saying, "Any amount of drinking, no matter how small, invariably tends to form habit which inevitably tends to increase."

SUCCESS JEOPARDIZED BY ALCOHOL

The present instruction aims to be, not merely theoretical, but practical. Hence, it presents evidence to correct the fallacy that prevailed extensively a few years ago, and still holds among the less well informed, namely, the false idea that alcohol will help a person to do his work. Hence, the teaching has included the results of careful experiments which show that alcohol is a hindrance instead of a help to both mental and muscular work. One of the best authorities on this subject is Professor Kraepelin, of Heidelberg University, who with his pupils and assistants has put the whole subject of the effects of alcohol on working ability to most thorough and exhaustive tests. The results of laboratory and experimental work on this subject are thus summed up by Professor Benedict in the article above mentioned:

"The average man, with perhaps a family or relatives dependent on him, should not jeopardize his chances for success by the use of alcohol. The diminution in mental and muscular power invariably accompanying the use of even small amounts of alcohol is a potent factor in determining his efficiency, chance for promotion, and appreciation by his employers. Clearness of thought, quickness of perception, keenness of sight, deftness of touch, skill, and accuracy in manipulation are valuble assets of the successful man, and each and all of these factors are so immediately affected by the use of alcohol as practically to interdict its use with men whose ambition leads them to hope for and strive for the best in life."

ALCOHOL A DESTROYER OF SELF-CONTROL

The present instruction does not exhort persons to depend upon self-control to tell them how much alcohol to use, because the experiments of Professor Kraepelin and other evidence have plainly shown that one of the first effects of alcohol, even in small quantities, is to weaken or destroy the power of self-control. We do not drug the watchman we engage to guard our property, neither can we expect to be guided by self-control when we have weakened the brain with a narcotic drug.

Grammar Lessons

SEVENTH OR EIGHTH YEAR

THE COVERING OF THE BODY

THERE is no topic in physiology and hygiene in which it is easier to interest a class of young people than that chosen for development in the present lesson.

Everybody admires a clear, delicately tinted complexion, and there are few persons of the age represented in these grades who are unwilling to take some pains to secure it. Unfortunately, they frequently attempt to remove pimples and other forms of skin disfigurement by external applications, instead of going to the root of the matter and preventing the cause of such disorders.

The skin is a health indicator. If it is fresh and bright, it is *prima facie* evidence that the digestion is good, the circulation unimpeded, and all the various organs of the body normally at work.

On the other hand, if the skin is yellow and muddy, or if eruptions appear on it, we may be sure that something is wrong within which must be set right, before the skin will regain its normal tone and appearance.

Every young person, then, must know the rules upon which healthful living is based, and must shape his mode of life in accordance with these directions. Knowledge of the structure and functions of the skin must be supplemented and reinforced by knowledge of all the processes and needs of the body upon which the health of the skin is more or less directly dependent.

Thus, in order to get and keep a good complexion, one must learn how to breathe, taking care to have enough pure air to breathe at all times, when asleep as well as when awake; one must exercise every day in the open air, no matter what the weather; one must bathe regularly, drink plenty of water, eat freely of fruit and plain, nutritious food at regular hours, avoiding rich, highly seasoned dishes, and go to bed early, getting eight or nine hours of sleep. Furthermore, one must not drink beer or any other alcoholic drink, or touch tobacco in any form.

First lessons on the skin with pupils in advanced grades may consider the many important functions which it daily performs. Enough work should follow on the structure of this organ to make it clear to all how the skin is able to carry on all these different kinds of work at the same time. The class will then be ready for intelligent study of the most important topic of all, the health of the skin.

THE PURPOSE IT SERVES

When assigning this topic, ask the class, without referring to their books, to make a list of the different purposes served by the skin. After they have noted down all they can think of, have the lists read aloud, verified, and added to as may be necessary in any case.

As an organ of protection, compare the human skin with that of different animals, birds, insects, etc., noting all points of resemblance and unlikeness, and finding reasons for each. Compare also with the outer covering of trees, shrubs, fruits, and other forms of vegetable life.

As an organ of excretion, find what the wastes are which must be removed from the body, and the different channels through which they are got rid of. How does the skin rank in importance with the other excretory organs? In what forms are solid wastes eliminated from the skin? liquid wastes? What happens if this function of the skin is interfered with? If it is stopped entirely?

As an organ of secretion, discover how many kinds of glands are found in the skin, the products secreted by each, and the purpose they serve.

As an organ of sense, determine what we know of the world and what is going on about us by means of the skin. How may the sense of touch be made more acute? Practice in identifying objects by touch may be introduced at this point.

As an organ of respiration, find how the skin aids the lungs. What animals make a proportionately larger use of the skin in this way than man?

As an organ of absorption, explain the danger to the skin in handling any poisonous substance with the bare hands, and the double danger if the skin is broken or bruised in any way. Refer to the action of poison ivy, nettle, and other poisonous plants in this connection.

As the organ of heat regulation, show how the healthy body is all the time kept at the same temperature by the action of the skin, no matter how hot or cold the outside air may be. Find what this temperature is.

ITS FITNESS FOR ITS WORK

Lead the pupils to discover for themselves

the general properties or characteristics of the skin, and why each is needed, For instance, after they have found that the skin is elastic, lead them to think of reasons why this is an advantage, and what the result would be if the skin on all parts of the body were as rigid as bone.

Have a drawing of a cross section of the skin put on the board by some one in the class, showing the different layers of the skin, the oil and sweat glands, the hair follicles, the blood-vessels, nerves, and pigment cells.

Let the pupils find from their physiologies the functions of each, and what it contributes to the value and health of the skin.

Find also how each is modified by circumstances. When the oil and perspiratory glands are most active, and the reason; what dandruff is; and the cause of tan, freckles, blackheads, chapping of the hands and face, and other common blemishes of the skin.

This is the time and place to study also the appendages of the skin, the hair and nails, finding what purpose is served by each, and how the material of which it is made adapts it to the carrying out of this purpose.

THE CARE IT NEEDS

Under this topic, consider first the nourishment of the skin. It must have proper food and enough of it. Why? No rich, greasy dishes, and the less cake, pastry, and fried or highly seasoned food the better. How do all such substances injure the skin?

No one who desires to keep a clear skin can afford to drink beer, or wine, or any other alcoholic liquor. Why not? How is the skin affected by such drinks? by tobacco? How is the general health affected by these things.

Have the class consult their books and the authoritative quotations at the end of this lesson for further information on these points. Have them make lists of ten or twenty foods that nourish the skin without clogging its pores or injuring it in any way.

Next in importance to the proper nourishment of the skin is the question of its cleanliness.

Find how many miles of drainage tubes have their outlet in the skin. The class would be amazed at the extent of these tiny tubes if they could see them placed end to end in a straight line. If these are not kept constantly open to allow the impurities of the body to pass off, bodily health suffers at once along with that of the skin.

Study the different kinds of baths in this connection, learning the special value of each, the best time for bathing, and when baths should not be taken.

For most persons in health, a cold or cool sponge or shower bath the first thing in the morning is a good tonic for the skin and the general health. At night, a warm bath with soap and water may be taken; at least the hands and face should be thus washed, rinsed thoroughly, and wiped dry on a soft towel.

Use soft water that will make a lather. If hard water only is available, soften it with a little borax or a few drops of ammonia. Bran or oatmeal water is also good for the skin, especially in cold weather.

If the hands and face become chapped, a little cold cream may be worked into the skin, but not enough to leave a greasy look. Use lemon juice, diluted until it does not make the skin smart, to remove stains. Tomato may be used for the same purpose.

Buttermilk is soothing to the skin when it has been sunburnt, and it helps also to remove freckles.

Paint and powder are both injurious to the skin. What is the reason?

Other things besides food and cleanliness that are essential to a healthy skin and a good complexion are air and sunshine. Think of reasons why both are needed.

Bring out the fact that perspiration is an advantage to the skin, and that it is constantly going on. Have the class show that this is the case and explain why it is true. Why should draughts be avoided after one has been exercising?

The clothing worn must be warm enough but as light in weight as possible, and worn so loosely that air can circulate freely to every part. Why?

Clothing that irritates or chafes the skin should not be worn. What is the reason? Some skins are sensitive to wool. In such cases it is better to wear fleece-lined undergarments in winter, or a thin cotton garment underneath one's flannels.

Sometimes cheap black or colored stockings irritate and poison the skin. What property of the skin makes this possible? Why should such garments be avoided? Why should rubber overshoes and ulsters be worn only when necessary, and never in the house?

In former times, it was commonly thought that alcoholic drinks made it easier for one to stand great extremes of temperature, so people drank in cold weather to keep them warm, and in hot weather to keep them cool. What is known now on the contrary in regard to both these theories?

How does alcohol effect the drinker in hot weather? in cold? Why is the drinking man less able to stand cold and exposure than the total abstainer? Why is he more likely to suffer from sunstroke?

Refer the class to their physiologies and to the authoritative quotations given with this lesson for answers to these questions, until the effects of alcohol on bodily temperature are thoroughly understood.

AUTHORITATIVE QUOTATIONS

ALCOHOL A CAUSE OF SKIN DISEASES

Alcohol favors the origin of skin diseases, because the alcoholic subjects himself much oftener to influences which often lead to skin diseases. Alcohol also favors the development of toxic erythema, of gangrene, and other disturbances of nutrition, and intensifies all suppurative processes of the skin.—NEWMAN, on the *Influences of Alcohol in Skin Diseases.*

Indulgence in alcohol may leave its mark upon the skin as surely as upon other organs and systems of the body. Acne rosacea is the disease that is most generally regarded as one of the stigmata of intemperance. It is especially seen in wine and spirit-drinkers. The nose is red, but not generally increased in size, whereas the wine-nose presents the largest excrescences. The beer-nose is less red, more oedematous and bloated.—G. NORMAN MEAGHER, M D., M. R. C. P., London.

"She maketh sunshine in a shady place."

ALCOHOL INJURES THE TEXTURE OF THE SKIN

The skin of the alcoholic becomes flabby, readily soaked, and permeable There is an imperfect combustion of fat, which accumulates in the tissues, especially in the integument.—SIR LAUDER BRUNTON, F. R. S.

ALCOHOL LOWERS BODILY TEMPERATURE

The effect of alcohol is a fall of temperature, and not, as is popularly believed, an increased heat of the body. It is true that after the use of alcohol there is a feeling of increased warmth, but this is due only to the increased vascularity of the skin and the activity of the sweat glands.

Alcohol seems to act in two ways: it has little or no effect upon the production of heat in the tissues, but greatly increases the loss of heat by causing the cutaneous vessels to dilate, stimulating the sweat glands and quickening circulation.

Various observers have found that alcohol taken in ordinary quantity as a beverage causes a slight depression; on the other hand poisonous doses may cause a fall of 5 or 6 degrees.—SCHAEFER, in *Text-Book of Physiology.*

Even after moderate quantities of alcohol, the vessels of the skin dilate, and thus a larger quantity of blood is exposed to the cooling or heating influence of the surrounding medium. Men and animals after the imbibition of alcohol are more at the mercy of their environment, for cold will no longer make their blood-vessels contract. On the other hand, we have reason to believe that when the surrounding air is warmer than the blood, alcohol will raise the temperature, such a result being facilitated by a coincident diminution of perspiration.

We may thus conclude that alcohol, in any dose perhaps, lowers temperature when combined with external cold, and that it raises temperature when taken in a tropical atmosphere (sunstroke).—T. K. MONRO, M. D., Physician to Glasgow Royal Infirmary, and J. W. FINDLAY, M. D., Asst. Physician to same.

ALCOHOL A CAUSE OF SUNSTROKE

Among 91 cases of sunstroke, 12 of them resulted fatally and half of these were due to alcohol. Alcohol is a strong predisposing cause of sunstroke.—M. J. LEWIS and A. F. PACKARD, in *Inter. Monat.*

CIGARETTES AND THE COMPLEXION

Suppose a boy has a lot of cigarettes and smokes a few of them every day. Such smoking will reduce his strength and general vitality, as will appear in his pale complexion and his diminished appetite.—T. M. COAN, M. D.

Since cigarettes seem less provoking
Unto the ones who do the smoking,
Oh, won't some power please compel 'em
To smell themselves as others smell 'em?

—*Boston Herald.*

BOOK NOTICES

BEAUTY THROUGH HYGIENE, by Emma E. Walker, M. D. A. S. Barnes & Co., New York. Price $1.00.

In this day of fads and cults, it is a relief to take up a book on hygiene that talks straight common sense from beginning to end. We feel like recommending this little manual of Dr. Walker's with sincere enthusiasm. It is based on thorough, scientific knowledge of hygiene for girls, is interesting and practical. The fat girl and the thin girl each has a chapter, and each certainly ought to own a copy of the book; while the medium sized girl is not neglected. The chapter on cheerfulness may not be wholly original but it is a good tonic.

CONNECTIVES OF ENGLISH SPEECH, by James C. Fernald. Funk & Wagnalls Co., New York. $1.50 net.

Right use of connective words is one of the niceties of language that mark the scholar. It follows, therefore, that such words are worthy of careful study. This has been given by Dr. Fernald, and the results have been embodied in the treatise mentioned above. More than 7,500 classified synonyms and nearly 4,000 antonyms are discriminatingly given, the correct use of the various prepositions is amply illustrated, and a large number of suggestions has been made as to the accurate use of words. The student or business man who aims at clearness and precision, and who does not, will find this book of great value. It is one of the few volumes that should be kept within easy reach at all times.

PSYCHOLOGY AND PATHOLOGY OF HANDWRITING, by Magdalene Kintzel-Thumm. Translated from the German. Fowler & Wells Co., New York. $2.00 net.

The underlying principle in this book is that mental conditions express themselves consciously or unconsciously in acts, and that conversely what a person does is indicative of what he is. Applying this principle to handwriting, the author shows by an elaborate argument and numerous illustrations how this reveals character. It is a readable book for one interested in psychic phenomena, whether one agrees with all the author's conclusions or not.

NERVOUS EXHAUSTION, by George M. Beard, A. M., M. D., Fellow New York Academy of Medicine. E. B. Treat & Co., New York. $2.00.

In these days of strenuous living and continued excitation of brain and nerves, it is not surprising that nervous diseases have increased proportionately, or that neurasthenia (nervous exhaustion) has invaded all ranks of society. In spite of this increase in such disorders, medical investigation of the causes to which they are due and suggestions as to remedies and means of prevention have long been lacking or inadequate. Dr. Beard gives a number of reasons why this state of things has existed hitherto, and devotes the main part of his work to a consideration of these problems. It is a book for the general practitioner who must meet constantly in his practice patients with either real or fancied nervous troubles, and who needs to be able to distinguish the true state of affairs and treat the patient accordingly.

THE CYCLE OF LIFE, by C. W. Saleeby, M. D. Harper & Bros., New York.

A collection of essays on a variety of subjects, showing the scientific relation of each to human life and needs. Beginning with the living cell, the author discusses fundamental principles in chemistry, physics, physiology, psychology, and morals. The chapter on alcohol calls attention to the great petition circulated last year among registered physicians in Great Britain urging that school children be taught the nature and effects of alcohol, and after considering the latest evidence declares that "Arraigned before the bar of science, alcohol has been found guilty; the judges are physiology, pathology, pharmacology, clinical medicine, psychistry, and criminology." The verdict is in, and it remains for society to pass sentence. Education is doing its work.

A SCRIPTURAL EXCUSE

Dorothy is a regular attendant at Sunday School and always remembers the texts. One day she came in from play with a much soiled pinafore.

"Why, what a looking object you are," said Mamma.

"Man looketh on the outward appearance, but the Lord looketh on the heart," said Dorothy meekly, so what could Mamma say.—*Little Chronicle.*

PHYSIOLOGY TOPICS FOR MAY

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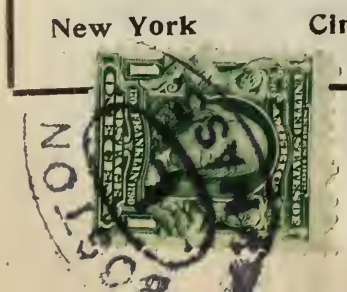

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The School Physiology Journal

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School Physiology Journal

Vol. XIV *BOSTON, JUNE, 1905* *No. 10*

JUNE

BY MARY NOEL MEIGS

LAUGHINGLY thou comest,
Rosy June,
With thy light and tripping feet
And thy garlands fresh and sweet
And thy waters all in tune;

With thy gifts of buds and bells
For the uplands and the dells

With the wild-bird and the bee
On the blossom or the tree,
And my heart leaps forth to meet thee
With a joyous thrill to greet thee,
Rosy June

THE MODERATE USE OF ALCOHOL AND LONGEVITY

BY T. D. CROTHERS, M. D.

Professor of Diseases of Brain and Nervous System, New York School of Clinical Medicine.

FEW persons can use spirits moderately in this country, in any form, regularly every day for any length of time. The so-called moderate drinkers, and those who use wines or beers at the table are, with few exceptions, in the first stages of inebriety or alcoholism. Such persons may not develop chronic stages, but they are subject to toxic periods and nerve explosions, and frequently die from pneumonia or other acute diseases.

THE MODERATE DRINKER A MYTH

In a study and experience of over thirty years, I have never known any persons who were strictly moderate users of spirits for any great length of time. Those who claim never to exceed a minimum quantity daily have been found to have excesses at intervals usually concealed. The ordinary business man who calls himself temperate because he drinks sparingly may possibly be able to keep within narrow limits, but he is the rare exception to the rule. Concealed drink excesses among this class are often the real cause of alleged disabilities and diseases.

HIGH DEATH RATE OF MODERATE DRINKERS

A study of so-called moderate drinkers indicates a higher mortality than amongst those who drink to excess at intervals and have a period of total abstinence. One of the reasons is that the steady drinker suffers from the cumulative anaesthetic action of alcohol, which constantly depresses vitality and lowers the resisting forces to acute diseases.

Such persons die suddenly from pneumonia, Bright's disease, hemorrhage, and other acute affections, and when injured suffer from both physical and mental shocks. In addition to this, the continued use of alcohol increases the toxines formed in the body and those taken from without, also diminishes the power of elimination, the direct result of which is a great variety of maladies called rheumatisms, dyspepsias, and malarious states.

If to relieve this condition the patient takes bitters or proprietary drugs, the injury is increased, and opium and other drug addictions with neurotics are certain to follow. The concealed use of drugs and spirits is increasing in this country, and such drugs are used to cover up states of exhaustion and strains.

A delusive theory often mentioned in the daily papers and illustrated by so-called examples to show the moderate use of alcohol or opium in persons who have reached great age are found to be largely myths. As chairman of a committee to study these newspaper examples of longevity associated with the use of alcohol and tobacco, I found in twenty instances not a veritable one. The nearest approach to this was one who had drunk for forty years, but during that time there had been many free intervals of abstinence. Nearly all these alleged drinkers began the use of spirits after the middle of life, and were exceptions to the rule. Our association for the study of inebriety has been engaged in the study of heredity, particularly of the descendants of persons who have drunk spirits. These studies have not been published.

One of the conclusions shows that so-called moderate drinkers in this country rarely live beyond fifty years, also that over 60 per cent of the descendants of these ancestors are defective and neurotics, suffering from psychosis and neurosis, with low vitality and early death.

Another conclusion sustained by statistical studies extending over many thousand cases is that the moderate and excessive user of spirits at twenty-five years of age rarely lives to the fiftieth year. Death follows from some acute disease or accident. Also his descendants

seldom pass the thirtieth year. In other words, the longevity of the alcoholic never exceeds fifty years, and that of his descendants is below thirty.

RACE EXTINCTION AND DEGENERACY

The race is practically extinguished in the third generation unless associated with some more vital stock. Still another fact comes into prominence—viz., the use of spirits in almost any form is followed by a peculiar mental degeneracy. Pauperism, insanity, idiocy, criminality, and a long list of so-called moral delinquencies, which are literally physical degenerations of neurons and nerve centers, are the common sequelae. The race has been switched off on the downward track to extinction. The so-called moderate use of spirits is the first switch point.

This is not a theory or opinion, but it is a demonstrated fact. The study of the dependent classes, including the criminals showing the large proportion of alcoholic ancestors, is strong evidence of this. Beyond this range of scientific facts another realm is opening and another side of the subject is coming into prominence.

It is the materialism of bitter experience spreading through all circles of industry, bringing startling confirmation to the theory that alcohol is an anaesthetic and paralyzant in its effects on the organism. All the great captains of industry and the employers of labor and directors of business interests are demanding more imperatively that responsible and trusted men in all departments shall be total abstainers simply for business reasons. To them, moderate drinkers are defective in judgment, capacity, and physical vigor. The elements of risk, danger, and loss are increased in the work they perform. The conclusion is not sentiment nor moral theory, but the teaching of harsh experience and knowledge of the operation of inexorable laws. The movement in this direction is silently going on. There is no clash nor roar of revolution. It is the march of industrialism along the lines of least resistance toward a definite end.

ESTABLISHED CONCLUSIONS

Some of the conclusions which seem to be established beyond question are:

First, that alcohol is a narcotic in its action on the organism, and this has been surrounded with delusions and theories of tonic and stimulant properties which make it a dangerous agent when used as a beverage.

Second, the action of alcohol is that of an anaesthetic and narcotic, and it is not only a toxic agent, but it increases and encourages toxaemias which have a peculiar corroding action on the organism.

Third, when alcohol is used continuously, even in small doses, its cumulative action impairs vital force and of necessity lessens longevity and increases mortality.

Fourth, these theories are confirmed by the statistical experience of insurance companies and the observations of health boards and health statistics.

Fifth, while it is not possible at present to state with mathematical precision the exact influence or damage to the body by the use of spirits, the fact that it has a very powerful influence on the vitality and longevity is beyond question.

Sixth, both the teachings of science and statistical studies sustain each other in the conclusion that non-abstainers and moderate drinkers who buy insurance should pay higher rates for the additional risk and perils which their condition calls for.

That education is very lopsided which provides for the development of the intellect only, regardless of the instruction necessary to the possession of a sound body that will be the efficient servant of an intelligent mind.

Emperor William, who during the last three years has been discouraging immoderate drinking, has engaged several chauffeurs making it a condition that they shall be total abstainers both off and on duty.

The wages of these men are higher than usual, as a consideration for their abstinence.—*New York Press.*

IN THE HEART OF THE WOODS

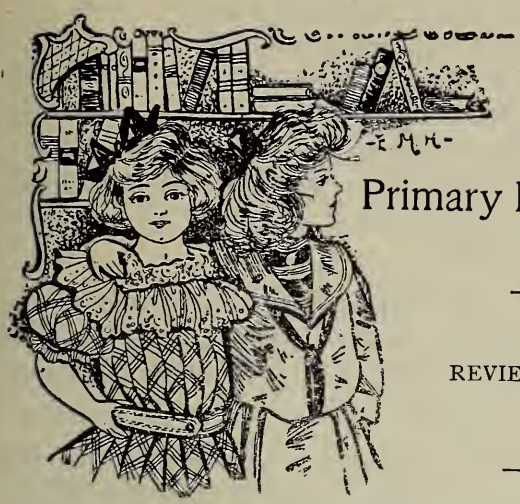
BY MARGARET E. SANGSTER

Such beautiful things in the heart of the woods!
Flowers and ferns, and the soft green moss!
Such love of the birds, in the solitudes
Where the swift wings glance and the tree-tops toss;

Spaces of silence, swept with song,
Which nobody hears but the God above;
Spaces where myriad creatures throng,
Sunning themselves in his guarding love.

Such safety and peace in the heart of the woods,
Far from the city's dust and din,
Where passion nor hate nor man intrude,
Nor fashion nor folly has entered in.

Deeper than hunter's trail hath gone,
Glimmers the tarn where the wild deer drink;
And fearless and free comes the gentle fawn
To look at herself o'er the grassy brink.



Primary Lessons

REVIEW WORK

CARE OF THE BODY

THE story is told of a good French bishop who had so worn himself out by his ministrations to others that he was ordered to take one day's entire rest, seeing no one, not even the King of France.

Hardly had he retired to his chamber when he returned to say to his attendant: "Do not disturb me for the King of France, but if a little child knocks, call me at once."

Many a teacher comes to the close of her year's work with much the same feeling. No matter how imperative her need of rest and change, if a little child is to be helped she responds as quickly in vacation as when at her desk in the schoolroom.

But notwithstanding this spirit of continual willingness, every teacher knows that during the next two months the great army of school children will be left much to their own devices, and that if they are to be kept from serious mistakes in living, the closing lessons of the year in physiology must emphasize anew the importance of a healthy body and what they must do to keep themselves strong and well.

Special pains should be taken to make this review work interesting. Put a picture of the prettiest child you can find in a frame and keep it on your desk as a model for each day's lesson.

Call the picture the class baby, and talk one day about her or his clothing; what she should wear in wet weather, in warm, in cold, when she goes to school, to church, to a party, when she plays, at night, etc.

Another day talk about her food; what she should eat and drink for breakfast, dinner, supper, on very hot days, between meals, when she is not feeling well; why she should not chew gum, drink beer or wine, eat green apples or cherries, much candy, sodas, rich pies and cake.

Other review lessons may be on exercise and rest, when she should take both, how much she needs, why she must have her windows open at night, some good games for her to play, and some kinds of work she can do; on cleanliness and the care of the body, hair, teeth, and nails; and lastly, perhaps, on the parts of the body itself, why our class baby needs each part, and what she should do, if she were a real live child like them, to help each to do its work well.

Before the close of each lesson, turn from the personification of the picture to the children themselves. If this is the way they would have their class baby live, will they try to do the same? Can any one think of a better plan? How many will try to live this way all summer?

In all these lesson talks, encourage the children to express their own thoughts freely. If they have wrong ideas, this is the way to find it out and correct them.

The suggested questions that follow may be used in final reviews.

FIRST YEAR

Why should we wear rubbers when we go out in the rain and wet, and take them off as soon as we come into the house?

How should we take care of our clothes?

Why is it better to drink water and milk than tea or coffee?

Why is beer a bad drink?

Why do we need to eat every day?

What are some of the best foods for children?

Why do children need to go to bed early at night?

Why should we always have the windows open in our bedrooms when we go to sleep?

How will cigarettes hurt a boy if he smokes them?

How often should we wash our faces and hands? our whole bodies?

AUTHORITATIVE QUOTATIONS

If 100 boys, aged 10 years and undersized, their parents stunted, alcoholic, or the victims of the morphine habit, were placed under ordinary good hygienic conditions, given plenty of wholesome food, outdoor exercise and sleep, it would be found that the average height of these boys at 17 years would be up to the standard.—*British Medical Journal.*

Children are particularly susceptible to poison from alcohol.—MAX KASSOWITZ, M. D., Univ. of Vienna.

Alcoholic drinks are always and in all circumstances absolutely forbidden to children. By child I understand every individual who has not attained to maturity of body, for experience has proved that everything that injures strikes more directly, and in a more intense manner, the growing organism than the organism that is entirely and completely developed—DR. WORMER.

The whole physical organism is enslaved by tobacco. It is making terrible inroads among the boys of today, dwarfing, depleting, stupefying the brain, enervating the nervo-muscular system, and impairing the intellect. More than a score of diseases are traceable to the use of the weed. The young are vastly more susceptible to narcotic poisoning than those of adult years.—D. H. MANN, M. D.

Tobacco is positively harmful to the development of the physical and mental powers of our growing youth. Statistics show most markedly the contrast in physical and mental standard between the boy who uses tobacco and the one who does not.—L. D. Mason, M. D.

SECOND YEAR

What are some of the things that help to make children grow?

What are some of the things that keep children from growing as fast as they should?

Why do we need pure air to breathe all night as well as all day?

Why should we not wear the same underclothes at night that we have worn in the daytime?

Why should we brush our teeth after every meal?

What harm would it do to bite any very hard substance with the teeth?

Why should we change our shoes if our feet have become wet?

What are some of the best foods to eat in very hot weather? in cold weather?

Why is cider bad to drink if the apples it is made from are good to eat?

What do we find out through our eyes? our ears? our noses? our mouths? our skin?

"No matter how the day may go, you can not make him cry;
He's worth a dozen boys I know, who pout, and mope, and sigh."

AUTHORITATIVE QUOTATIONS

The majority of people lay the foundation of their subsequent drunkenness in early childhood. —DR. SMITH, Schloss-Marbach.

There is absolutely no doubt that alcohol in any form, even in light beer and light wine, is a poison for the healthy child. The older children lose their mental, as well as their bodily vigor when they use alcoholic drinks; they develop prematurely, make unsatisfactory progress in their studies, and become anæmic. Not seldom their disposition is also spoiled; previously gentle and manageable, the use of alcohol makes them excitable, irritable, and unmanageable.—L. THOMAS, M. D., Director Child's Hospital, Freiburg.

Alcoholic drinks produce incalculable injury upon children. Alcohol destroys the natural development of both mind and body.—A. BAER, M. D., Berlin.

If we have any regard for the welfare of the younger generation, we shall have to rescue our youth from that murderer of humanity, alcohol, and win them to total abstinence.—S. STUMPF, M. D., Medical Counsellor, Munich.

Besides giving rise to digestive troubles in children, alcohol causes many other most injurious consequences. It attacks the nervous centers, the brain, and the spinal marrow, and causes troubles that sometimes prove fatal. Very often convulsions are the result of taking alcohol. In scanning medical literature, one finds observations establishing the fact that alcohol may cause that terrible malady, meningitis.—DR. BIENFAIT, in *Le Bien Social.*

Cigarette smoking by the immature causes a partial arrest of growth, both physical and mental, so that a bright child will develop into a weakling exhibiting little or none of the bodily or intellectual perfection promised during the pre-cigarette period. In this, as with other evils, prevention promises more than correction; for in this addiction, as in others, there is a mental bias that in many cases prevents co-operation in the matter of cure.—M. R. KEELEY, M. D.

The cigarette is deadly because it is so cheap, and consequently is within the reach of boys of tender age who obtain them in packages and smoke them almost continually during waking

hours. Owing to the sensitiveness of the youthful system to all drugs, this results in stunted growth which leaves its imprint after the boy has grown to manhood, and in many, many cases the effects are never outgrown, even though the cigarettes are discontinued.—Charles H. Hamilton, M. D.

THIRD YEAR

What are the most important parts of the body? Why is the body made up of parts instead of being all in one piece? How are we able to move the different parts of the body?

How is the body covered?

Why should the skin be kept clean?

What does the body need to make it grow?

How much sleep do children need? Why should they go to bed early and get up early?

Name four good kinds of exercise. What parts of the body does each of these exercises help to make larger and stronger?

How does beer hurt those who drink it? Why should I never drink beer?

Why is the boy who smokes in danger of being small and thin?

What is a good breakfast for a growing child? a good dinner? supper?

AUTHORITATIVE QUOTATIONS

The conditions of health are sound structure, with plain food, pure water, fresh air, and abstinence from noxious agents and wasteful habits.—F. R. Lees, M. D.

Alcohol predisposes children to irritability, and renders them disagreeable and difficult to deal with; it often causes them to have nightmare, during which they awake with a start, the prey to great terror. The alcohol produces its effects on children in a fashion almost instantaneous, the maladies taking an acute form, especially on the digestive and nervous systems. It is also the cause of skin affections, among which redness and scab are frequent.—Dr. Bienfait, in *Le Bien Social.*

Drinking first makes people thirsty, lazy, then weak, then sick, and at last disgusted with life.—L. Sonderegger, M. D.

From the standpoint of race hygiene we must oppose with the utmost energy the use of alcohol as a beverage for children. If, during this most important period of their development as far as their future is concerned, our youth are prohibited from using alcoholic drinks they will grow up mentally and physically more energetic for the ideals of humanity.—Richard Demme, M. D., Univ. of Berne.

Shattered constitutions and premature death are daily results of tobacco-using. Tobacco slaves are not infrequently called hence with what is termed tobacco heart, noticed in the obituary columns as heart failure.—D. H. Mann, M. D.

All educators agree that boys who use tobacco in any form make less progress in school, and that the most pernicious form for old or young is in the form of cigarettes. Any student who uses it falls below in his work and standing in his classes. The boy is soon troubled with a loss of memory and energy, he lacks in morals, is deceitful, and soon loses his self-respect, has trembling hands, insomnia, and dyspepsia. From this class come many cases of insanity and early deaths. No minor can use cigarettes and be in good health.—B. Broughton, M. D.

In its action on the system, nicotine is one of the most powerful poisons known. A drop of it in a concentrated form was found sufficient to kill a dog, and small birds perished at the approach of a tube containing it.—Wood's *Materia Medica.*

The London *Lancet*, one of the most reliable medical journals published in the English language, has recently stated that the most deleterious product in the combustion of tobacco is carbon monoxide, which is the deadly constituent of water gas, and is present in comparatively large quantities in tobacco smoke. This is the poison that is responsible for the utter demoralization of that unhappy individual who has come to be known as the cigarette fiend, whose pale face, shattered nerves, and hopeless position in the community is recognized as applying to many of our American youth, whose opportunity for usefulness and happiness has passed away.—Charles Bulkley Hubbell, Ex. Pres. Board of Education, New York City.

The cigarette is the starting point of thousands who fall into its clutches and eventually drift away from all sense of morality.—John Wanamaker.

NUMBER ONE

"I tell you," said Robbie, eating his peach,
And giving his sister none,
"I believe in the good old saying that each
Should look out for Number One."

"Why, yes," answered Katie, wise little elf,
"But the counting should be begun
With the other one instead of yourself,—
And he should be Number One."

—*Selected.*

Grammar Lessons

REVIEW WORK

GROWTH IN VACATION

ONE of the unsolved problems in education is how to bridge the gap between school and vacation and make both equally profitable to the child. Work, play, and study are all means toward the same end, that of fitting the youth to perform worthily his part in life, and the time is coming when they will not be looked at as isolated experiences but as closely correlated parts of the same whole.

Vacation is the special opportunity to develop a healthy body, just as term time is the special opportunity to develop mental power, but the vacation that is all play misses its true aim. Most boys and girls will have to earn their own living in one way or another, and even those who do not must be able and ready to make some return to the world for what they have received.

Throughout the year, each pupil has learned much of the way to care for his body. Now is the opportunity to test these facts and make them of real value. He has learned that there are certain foods which are especially suitable for hot weather. Is he prepared to take this knowledge home with him and do all he can to make the family table correspond?

He has learned many ways of developing muscle. Is he ready to choose those which will be of help to others as well as himself? He has found that habits of cleanliness, of promptness and politeness, of abstinence from beer and cigarettes, are necessary to his success in getting and keeping any sort of a business position. Is he ready to put this knowledge into practice?

These are questions which should come up in reviewing the work in physiology and hygiene with grammar school pupils. Others will as readily suggest themselves. The important thing for each pupil to carry away with him is that he must not only know what will make or mar his own efficiency in life but that he must actually choose the one course and refuse the other.

FOURTH YEAR

Why do we need a good supply of fresh water every day?

What is the great danger in taking an occasional glass of beer or any drink containing alcohol?

Give three reasons why we need to eat. What kinds of food are best for us?

How does the food we eat get to every part of the body that needs it?

How is the blood purified?

What is the use of the bony framework in the body? Why is it made up of many bones instead of being in one solid piece?

How can we move any part of the body? How is good muscle made? How is it harmed by alcohol or tobacco?

What does the brain need in order that we may be able to do good work with it? Why are tobacco users so often at the foot of their class? Why is the brain so quickly injured by alcoholic liquors?

How can we help our senses to become more acute? How may they be injured?

Why does not the skin wear out? How should it be taken care of?

AUTHORITATIVE QUOTATIONS

It has become the pernicious custom to allow children the use of beer and wine, of alcohol in a variety of forms. People imagine that this imparts strength to the growing organism. But the very opposite is the result, for every organ is weakened. . . . For the development of intelligence this is the very thing we must avoid, since it is a poison for the brain, especially for that of the child.—J. KOLLMAN, M. D., Univ. of Basel.

Good health will, in my opinion, always be injured by even small doses of alcohol.—SIR ANDREW CLARK, M. D., LL. D.

Science does not support the plea that alcohol is a harmless, pleasant beverage. It can not support the plea of a moderate drinker that alcohol is an aid to health. But it does support the position of the total abstainer with an emphasis which it is culpable to disregard. It shows that the abstainer can do more and better work, live longer, and be healthier than the moderate drinker. Science, in short, shows that the abstainer lives the normal life, while the moderate drinker lives the abnormal.—THOMAS EASTON, M. D.

A cigarette in the mouth of an American youth is a prophecy and a sign of the degeneracy of the race.—FRANK V. IRISH, Pres. National Anti-Cigarette League.

The cigarette habit causes positive physical injury, and the associations formed in connection with it are morally injurious.—W. H. G. COLLES, Pub. School Inspector, Chatham, Ont.

The Spencerian Business College rejects cigarette smokers on the ground that cigarettes are the direct cause of premature age, shattered nerves, mental weakness, stunted growth, and general physical and moral degeneracy.—The *Defender*.

FIFTH OR SIXTH YEAR

What different kinds of work are done by the skin? How is it kept healthy and in good repair?

What organs remove the waste matters from the body?

Why do we need to breathe? What kind of air is necessary?

Show why wine, beer, and cider are not foods. Tell some of the ways in which these drinks injure the body.

Describe the process by which food is digested and made into blood.

How do we form habits? Why is the habit of moderate drinking or smoking so hard to overcome?

Why is a correct position in sitting and standing necessary to health?

How does the use of tobacco affect size and growth in young people?

Why is the tobacco user so frequently selfish and regardless of the rights of others?

What are the chances of success in business of a boy who takes a glass of beer or smokes cigarettes when he feels like it?

"Idols of hearts and of households,
Angels of God in disguise."

AUTHORITATIVE QUOTATIONS

In training, there are three physiological necessities: first, to increase the muscular force; second, to get rid perfectly of waste products; third, to strengthen the staying powers of the muscles of the heart. The effect of alcohol may be to stimulate for the moment, but in the long run it decreases muscular force, and hinders the process of getting rid of waste matter. It is therefore a real hindrance to athletes, and under its influence feats of endurance are impossible.—G. SIMS WOODHEAD, M. D., Univ. of Cambridge.

If moderate drinking led to more moderation, and that to total abstinence. it would not be dangerous. The trouble is that it leads to more drinking and intemperance.—*American Issue*.

An adaption to moderation in alcohol or to moderation in the use of any other narcotic poison is hardly conceivable, because moderation has no boundaries, while all of these poisons by means of their peculiar effect on the brain, steadily maintain the tendency to induce or even increase excess in drinking. Alcohol for humanity is injurious and poisonous, anything but innocent in character: in consequence, true moderation consists in abstaining from it.—AUGUST FOREL, M. D., Univ. of Zurich.

Unlike any other hydro-carbon used as a food or as a beverage, alcohol has a peculiarly subtle effect upon the nervous system, forming a habit which becomes maniacal and uncontrollable in character before the habitué is at all aware of it.—C. A. GREENE, M. D., in the *Medical Record*.

The use of tobacco in any form by young boys has an undoubted tendency to lower very materially the mental force and acumen, and to render the user a person without ambition, and may even cause insanity or idiocy.—N. B. DELAMATER, M. D., Specialist in Mental and Nervous Diseases.

The earliest effect of tobacco is upon the heart, through its nervous mechanism; then upon the general nervous system, including the brain (the latter showing itself in insomnia, loss of memory, and later in want of proper mental control). Finally, the nutrition of the entire system suffers.—CHARLES GATCHELL, M. D.

It is one of the singular physiological actions of alcohol that its very presence in the human body maintains the desire to take more of it in those who take a little, and in this manner drunkards are produced out of moderate drinkers.—SIR B. W. RICHARDSON, M. D., F. R. S.

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What is this that hath made the rose—,
Gray roots and an earthy clod?
Rather—the sunshine, rain, and dew,
And—the breath of God.
—MADELINE S. BRIDGES.

THE WORK FOR TODAY

THE season of the year for making out new courses of study is at hand, and now is the time to present the International Course of Study in temperance physiology to school officials, explain its requirements, and urge its adoption for the ensuing year, with the Oral Lesson Book for primary teachers' use during the first three years of school, and graded indorsed books for pupils' use beginning with the fourth school year.*

The International Course of Study is our American plan of instruction in temperance physiology, wrought out through years of experimental study of the truths that need to be taught to prevent the formation of drinking and other unhygienic habits and insure a sound national physique, and also of the time and place for this instruction and the methods by which it should be given.

TEMPERANCE INSTRUCTION IN ENGLAND

The results of our system of temperance education, as seen in the life and business efficiency of the American people, are leading to its adoption in other countries. Already our course of study has been recommended to every local school board in England, Scotland, Ireland and Wales with the request that it be made the plan of work in this branch in all the public schools of those countries. This action has made it an international course.

While this recommendation foreshadows the day when the English-speaking race will have intelligently abandoned the use of alcoholic drinks, it is now calling out something of the same opposition in England that we have formerly encountered in America.

These familiar with the steps taken by the Committee of Fifty to attack scientific temperance instruction in our public schools will remember that Sir Michael Foster is credited in the *Report* of the Committee of Fifty with the formulation of the Cambridge Statement, a vague attempt to deny that alcohol is a poison by manufacturing an absurd definition of a poison that would exclude all such drugs as strychnia, opium, aconite, etc.

This same Sir Michael is now criticising statements that alcohol is a poison which appear in the course of study before the British people. He is saying that if alcohol is spoken of as a poison, water and oxygen must also be spoken of in the same way, because distilled water, applied directly to the nerves, and pure oxygen, under a pressure of sixty pounds to the square inch, would be injurious.

FALLACIES EXPOSED

Fortunately, these fallacies are at once exposed by the eminent scientists who have the course of study in charge, Sir William Broadbent, Sir Thomas Barlow, Sir Victor Horsley, and other members of the Committee of Thirty-one.

They show that the effect of water on an exposed nerve is foreign to the subject, and not to be compared with the effect of taking water in the normal way into the human stomach; and that the effect of pure oxygen under high artificial pressure is not to be compared with its effects when taken in the normal way as a constituent of the air we breathe. Sir William Broadbent's committee rightly characterizes such distortion of scientific truths as reprehensible.

At a great public meeting, Sir Victor Horsley referred to the attempt made by two physiologists of America to get the physiologists of England and the continent to say that alcohol is not a poison. "That attempt," he said, amid cheers, "failed." And he added, "if we are not to talk of alcohol as a poison we are not to talk of it at all, that is the feeling of the medical profession."

Years ago, the idea that alcohol added to strength and efficiency was widespread in theory and practice. But demonstrated effects of alcohol upon muscular precision and nerve force, as brought out in the experiments of Dr. Richardson and others, led to the incorporation of these truths in the text-books now studied by millions of pupils in our public schools.

Through this agency, for more than a decade and a half the public schools in America have

* Send 2 cent stamp to Mrs. Mary H. Hunt, 23 Trull street, Boston, Mass., for sample course of study and list of indorsed books.

been teaching all classes of pupils that alcohol injures working ability by impairing judgment and manipulative skill. Today, the industries of America well nigh universally demand abstinence as a condition of employment.

All these conclusions found echo in a great meeting recently held in the Mansion House, London, presided over by the Lord Mayor, and attended by leading business, professional, and titled men, met to consider the relation of the use of alcoholic drinks to business efficiency. The testimony concerning the injury done by alcohol to working ability was emphatic and without dissenting voice.

INDORSEMENT OF THE MEDICAL PROFESSION

At a later meeting of London physicians in Examination Hall, Victoria Embankment, to carry forward the movement for promoting the teaching of hygiene and temperance in the public schools, Sir William Broadbent, who presided, reaffirmed his belief in the necessity of attacking the curse of alcohol with the weapon of prevention rather than cure.

"Little Miss Helpful," my mamma calls me,
When I 'muse baby, and she 'muses me.

"It is in the schools," he declared, "that the victory must be won. The doctors are pleading for the next generation, and backed by the report of the deterioration committee they will not plead in vain."

One of the London papers reporting the meetings says: "It is a great day for the cause of temperance when it finds the medical profession fighting enthusiastically on its side."

The same paper says that if Sir Benjamin Ward Richardson, "who was regarded even at the time of his death as something of a black swan in the medical profession because of his position on the alcohol question, could revisit the earth, he would be startled and rejoiced to find how the medical world regards the teetotal fanatic today."

Thus the world is coming to see the truth of our motto that the star of hope for the temperance reform stands over the school house. Now is the time to hold every point we have gained in the effort to win the coming majorities for freedom from alcohol, and to press on to new victories.

MORE KNOWLEDGE AND MORE CONSCIENCE

THE progress of humanity is the perpetuity of our republic. The coming of Christ's kingdom on earth is waiting for that irresistible volume of public opinion that will sweep the last vestige of the alcohol traffic from our shores. Only public opinion focalized at the ballot can accomplish this end. Nothing that will help to form such opinion on an intelligent basis is unimportant, hence everything that will make more effective our system of public school education in physiology, hygiene and temperance is vital to the foregoing great interests, whether it is a good course of study with good books adapted to grade for pupils' use who have books in other studies, the skilful and faithful teacher, or such intelligent co-operation on the part of the superintendent of schools as is shown in other branches.

"One trouble with the study of temperance physiology is we school men do not like it. We always put it on the schedule for younger teachers," said a school superintendent recently.

"Do you like to teach a subject you do not understand very well yourself?" I asked, and added, "if you know you have sounded the depth of a subject, and have grasped the relation of your pupils' understanding it to their future and to that of society of which they are soon to be a part, and have so studied the progressive development of that subject that you know just what phase of it should be presented to guide your pupils each year and prepare them for the next year's work, you have a sense of reserves on that topic that means intelligent interest and power. A born teacher likes to teach a subject he has thus mastered. It possesses him, and he must teach it.

"That is so," the superintendent replied,

"but I am afraid we do not realize the importance of this study as you do."

"I have always said the superintendent or teacher who is himself a total abstainer, who neither smokes nor drinks occasionally, and who has sufficient moral sense to be a teacher can not fail to realize the importance of this branch if he will study it himself."

"More knowledge on this subject and more conscience then is what we school men need," my friend replied.

That represents the situation. The gratitude of the future is waiting for the multimillionaire who will endow a department in some of our universities for the training of normal school teachers, institute instructors, and through them the public school teachers of this land, in the best methods of teaching physiology, hygiene, and temperance in our public schools.

But meantime, while waiting for this special university course, there is nothing to prevent special study by each superintendent and teacher. The large-hearted men and women who during the coming summer vacation will study the following leaflets,* "To What Extent and By What Methods Should Temperance Physiology Be Taught in the Public Schools?" "A Moral or a Scientific Question?" "Requisites in Making Out a Course of Study," "How to Abate a Great Evil," and "A Progressive Study," will find themselves not only more interested but more intelligently equipped for their next year's school work.

*These may be obtained at cost from the Department of Scientific Temperance Instruction, 23 Trull St., Boston, Mass.

PRIZE ESSAYS IN TEMPERANCE PHYSIOLOGY

SOME months ago, a Loyal Legion Temperance Society of New York City, composed of leading citizens and with Mr. Seth Robinson as President, offered fifty-three prizes to the pupils in the upper grammar grades of the city schools for the best original compositions on the subject, "Our Bodies as the Houses in which we live, what we are taught about them, and how we can make them the best kind of Homes."

As a result of the new interest thus aroused in the study of temperance physiology, a large number of essays was handed in, carefully considered by the committee chosen to pass upon their merits, and one first prize, consisting of a gold medal and $20 in cash, two second prizes, each consisting of a silver medal and $10 in cash, and fifty third prizes, each consisting of a bronze medal and $2 in cash awarded to the successful contestants.

Through the courtesy of Mr. Robinson, we are permitted to publish the first and second prize winning essays.

FIRST PRIZE

In constructing a house it is necessary to first build a framework; so it is with the human body. The framework of a house is constructed of wood, while that of the human body is constructed of bones. Over these bones is the flesh, or muscle, as it is sometimes called. The muscle is a soft, fibrous substance which is very shaky and so the skin grows over it to keep it in shape. There are two kinds of skin; the inner and the outer skins.

Now that I have explained the framework, and its coverings, I will go on to tell about the blood. The blood is a fluid which looks very much like water, and in this fluid are corpuscles, some of which are red, and others white. These give the blood the color of red. Sometimes the blood is a bluish color. The reason for this is that the blood after passing through the whole body becomes impure and is full of foul things. To make the blood pure, we must breathe the pure oxygen freely, in the morning when we get out of bed. This makes a person healthy, wealthy and wise.

As I suppose, you people who have asked us to write a composition on hygiene, and as you are men, I guess you will be very much interested in the injuries of alcohol aud tobacco. Both these things have a very poisonous stuff in them, which does a great deal of harm to those who use it. It is therefore wiser to leave it alone. Maybe you will think that I say this because I am a girl, but even if I were a boy I would think the same way on the subject.

Alcohol and tobacco are very dangerous both for the heart and lungs. It weakens them and they can not do their work properly. A great many young boys have gotten into the habit of smoking. If they only knew the harm that it does them, they would leave tobacco to take care of itself. Young boys think that they have a perfect right to smoke, because their fathers smoke. This is altogether wrong. Fathers as well as their sons are at fault for this.

Fathers should not smoke in their children's presence, so as not to get them into the habit of smoking also. It is a very bad habit to get into. Once you begin, it leads you to do so all the rest of your lives. It is the same way with a man who drinks. If he once takes a little liquor to his lips, the next time he will take more, and so on until he becomes a drunkard. As I said before, if he only knew the harm it does him, he would leave it to take care of itself.

Some doctors recommend wine to their patients by saying that it will make them stronger. This may be true, but when a person is sick and is told to drink wine, then even when he is well again he will not give wine up. It draws him to drink it just as a magnet draws a pin or a needle to itself.

I think I have told enough about alcohol and tobacco. I will now say something about exercise for children. Children should when out-of-doors run, jump, or play, so that they will become strong. It is necessary to take a bath at least once a day, to keep the body in a good and healthy condition. The beneficials of bathing are very important, as it opens the pores and all the foul stuff is taken out of them.

This is all that I could find to write on the subject. I have done my best to make it interesting so that whoever reads it will not become tired of it, as soon as one page is read. I hope that this composition will be satisfactory. This is the first time I have ever done anything to win a prize, and I hope that I will be successful. — Rose R. Becker, aged 13. Grade 7B, Public School No. 107.

"I don't want to be 'developed', I'd rather be like you,
And have a lovely, lovely time, as common children do."

SECOND PRIZE

Our bodies are to be compared with a great steam engine, or watch, and even greater, because man made the watch and engine, but he could not make a human body. Our bones are the framework of our bodies, because they serve to keep us strong, and to preserve our figure. There are two hundred and six of them in all.

Our blood is a red fluid a little thicker and heavier than water, and in it are many small globules which are shaped like a coin; there are also white ones but they are not so numerous as the red ones. It is the red ones that give the blood its red color.

Our heart is divided into four parts: the left and right auricles, and the left and right ventricles, which are made of strong muscle so that they can do the work of pumping the blood all through our system.

For our bodies to be kept strong and healthy they must be cared for; they must have a sufficient quantity of food to nourish them. They must be kept clean, so that the skin may perform its duties of keeping the body cool. They must have water, and above all they must have fresh air to purify the blood.

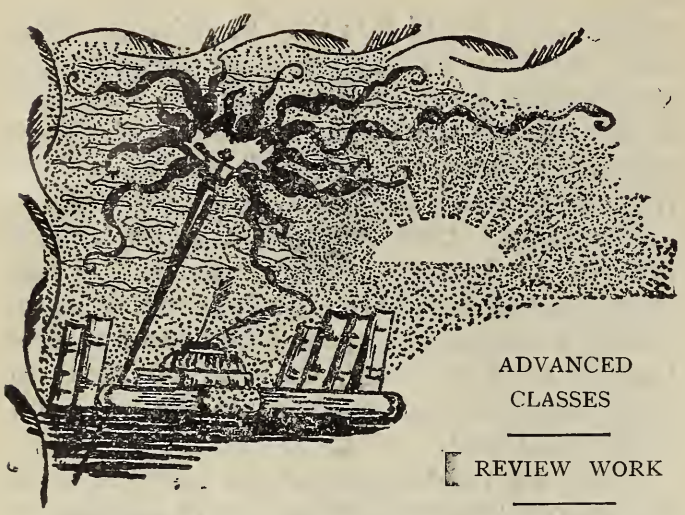
We should take out door exercise for our muscles to become strong. In school we should not sit with our backs humped, because it affects the lungs, and the blood can not flow through them correctly; we should breathe in good long breaths so as to inflate the lungs and purify the blood.

There are two things that are very injurious to the body: they are tobacco and alcohol, of which tobacco is the worst, because it is more easily taken than alcohol among children. If you take a puff of a cigarette and blow it through a handkerchief, it will leave a yellow stain, and when one smokes it leaves the same stain on one's lungs and deadens the brain so that you can not remember anything.

Alcohol is just as bad, but not with children. It has a tendency to absorb water; that is why you can put meat in it and it will not decay. Now our brains are very soft and tender and if we drink alcohol it will dry up the brain and make it useless. Delirium tremens is a disease caused from its use. The muscles become weak so that they can not stand the weight of the body. Under its grasp some people are merry, others sad, and others foolish.

We should take great care of our bodies so that we shall live the full time of our lives, that God made us to live.—Murrell Armstrong, aged 15, Grade 6B, Public School, No. 69.

Alcohol is distinctly a poison. . . . It has a somewhat stimulating effect, but this lasts only for a moment, and after it has passed away the capacity for work falls enormously. . . It is certainly inconsistent with fine work.—Sir Frederick Treves, Bart, M. D., LL. D.



ADVANCED CLASSES

REVIEW WORK

TOTAL ABSTINENCE A KEY TO SUCCESS

IN every element of success, health, brain and will power, and character, total abstinence plays an important part. It is especially fitting, therefore, that pupils who are about to leave the public schools and enter the world of business should take with them clear cut notions of the scientific reasons upon which total abstinence is based.

Furthermore, all such pupils should know the relation which exists between total abstinence and working ability, and thus be able to understand why America, the most sober of the great nations, also holds the commercial supremacy of the world. It should be as much a matter of pride to our youth that this country has been the pioneer in introducing this study in its schools, as that a hundred years ago it led the way in achieving national independence.

We suggest that the remaining lessons of the year in temperance physiology for advanced pupils be based on these topics:

SCIENTIFIC REASONS FOR TOTAL ABSTINENCE

The first of these lessons should take up the great fundamental facts upon which the science of temperance is based, and which, for the last ten or twelve years, have been taught the children in the public schools of America, viz.:

First, that ethyl alcohol is a poison, or, in other words, a substance whose nature it is to injure health and destroy life.

Second, that alcohol is not a food, because a food is a substance whose nature it is to nourish the body without injuring any of its parts, and it is the nature of alcohol to injure the body, especially the nervous system.

Third, that even in small quantities as an appetizer, alcohol not only hinders digestion, but is a dangerous beverage because of its power to create an uncontrollable desire for more that, if gratified, destroys the drinker.

Fourth, that alcohol is not a stimulant in the sense of adding to strength, efficiency, or endurance, but is instead a depressant that after briefly exciting, blunts the perceptive faculties, dulls the judgment, impairs muscular precision, and thus injures working ability.

Consider with the class the scientific accuracy of these statements one by one. Who are the people who believe these verities today? What reasons have they and we for thinking them to be truths instead of mere theories? What authorities can be found to substantiate each? In this connection read aloud and discuss each of the quotations given at the end of this lesson, and others germane to the subject which have appeared in previous JOURNALS.

RELATION OF ABSTINENCE TO WORKING ABILITY

What are the qualifications which every business man looks for in his employes today? Why is total abstinence coming to be one of the first requisites in all important lines of work?

Review with the class the effects of even slight amounts of alcohol on brain and muscle power, on quickness and accuracy of perception, and on manipulative skill. In every position in which one or the other of these requirements is a factor, the moderate drinker is severely handicapped in competition with the total abstainer, and in most of them he is sooner or later ruled out entirely.

Find why insurance companies are more and more coming to class total abstainers by themselves and give them better terms than even the most moderate drinkers. In this connection, read selections from Dr. Crothers' article on "The Moderate Use of Alcohol and Longevity," on page 145, and note how completely he disposes of the popular theory that drinking people live as long as or longer than others.

What is the explanation of these facts?

PIONEER POSITION OF AMERICA IN THIS STUDY

An exceedingly interesting lesson can be developed on this topic. Have the class find how long the fundamental truths of scientific temperance have been known to the world; how and by whom they were discovered; when and by whom they were first put into our public school physiologies.

Have them find also what state enacted the first temperance education law ever passed, and what it required; when the last law of this kind was enacted; how the later laws differ from the earlier; when the law of their own state was enacted; how many states in this country now have such laws; what other countries have temperance education laws; how many children are now receiving this instruction.

Show how different countries in Europe,

Asia, and South America are following our lead in providing instruction in hygiene and temperance for their school children. Tell about the recent action of British physicians, 15,000 strong, in recommending our course of study in temperance physiology to all public schools in England, Ireland, Scotland, and Wales, and the attention given to this subject by the head of the educational system of Germany.

Bring out the relation of the Woman's Christian Temperance Union to this work, finding which of its departments has it specially in charge, the name of the national and international superintendent (if Mrs. Mary H. Hunt is not already known to your pupils), something of her past and present work in securing these laws, finding authors and publishers, revising text-books, preparing courses of study, conducting teachers' institutes, and furthering this work in other countries besides America.

WHAT TEMPERANCE EDUCATION HAS DONE AND IS DOING

Final lessons on this subject may be on the practical benefits arising from this study.

"O joy to be out in June.
In the dawn and dew, 'mid the ruddy beds of clover."

Notice first, the change in sentiment towards moderate drinking. Twenty years ago, people generally thought there was no harm in drinking provided one did not take "too much." Scientific temperance has taught the young people of the land and through them older people that the great danger in taking the first glass is its tendency to create an appetite for itself that may become too strong to resist.

Consider the changed attitude of business towards drinking. Before this study was put into the schools, it was easy for a man to find work if he did not drink during business hours. Now a large and increasing number of employers insist on total abstinence at all times. People will not pay for damaged brains when they can get those unpoisoned by alcohol.

Show the improved physical condition of people and the greater length of life today, due to increased knowledge of health laws, including those that teach total abstinence. Hardly a paper or magazine is now published that does not contain one or more articles on good health and how to get and keep it. Such articles were seldom or never seen until the temperance physiologies had led the way.

Above all, call attention to the fact that it is the sober and healthful living of Americans, compared with that of the people of other countries, that has largely led to their greater skill and productive ability, and has given them commercial supremacy in the world. At the same time, do not fail to show that our country can maintain this lead only as present and future generations believe in and practice the same total abstinence and hygienic living.

AUTHORITATIVE QUOTATIONS

Alcoholic drinks are not nutritive, they are not transformed in the body; on the contrary, they retard assimilation and nutrition. . . . . One of the worst features of the use of alcohol and other narcotics is their tendency to be required in ever increasing doses. Ninety-nine out of a hundred drinkers began with an occasional glass of beer, but after awhile they had to have their tipple regularly—noon, afternoon, and night—and more of it.—A. Forel, M. D., Leipsic.

Alcohol is a poisonous drug whose special action in the body is a brain cell paralyzant, destroying these cells in the inverse order of their development . . . . . Alcohol adds no muscular strength to the body; at most it encourages the expenditure of its force in the shortest possible time.—W. A. Chapple, M. D.

Physiological investigation proves the idea that alcohol possesses nutritive properties to be completely erroneous.—Max Kassowitz, M. D.

Alcohol does not give force; it is not force-producing. The seemingly exciting impulse which it produces is but a fleeting exaltation of the organism, after which comes the period of fatigue, weakness, and paralysis. The consumption of alcohol augments neither the physiological energy nor muscular work. Alcohol does not favor digestion.—G. von Bunge, M. D.

BOOK NOTICES

THE FREEDOM OF LIFE, by Annie Payson Call. $1.25 net. Little, Brown, & Co., Boston.

The title of this book admirably suggests its nature. The free person is he who lives healthily and works gladly; who acquires, that he may dispense for the good of others. Such a one is not haunted by worries, nor is he in bondage either to imaginary or real fear. According to this definition, most of us are not free, however much we may lament the fact. But our chains after all are largely fictitious, and Miss Call has done good service by showing their flimsy texture and how easily they may be broken.

SELF-CURE OF CONSUMPTION, by Charles H. Stanley Davis, M. D., Ph. D. 75 cents. E. B. Treat & Co., New York.

A few minutes study of the health statistics in any large city will show that consumption is the great national plague, all the more deadly because of its insidious nature and popular indifference to preventive measures. Patients far advanced in the disease will travel over the length and breadth of the land to effect a cure, when they will not obey the simple health rules which wouid render them immune. Dr. Davis has rendered a public service by showing that no one need fear this disease if he breathes, eats, drinks, sleeps, and works properly.

LITERARY PILGRIMAGES IN NEW ENGLAND, by Edwin M. Bacon. Silver, Burdett, & Co., New York.

No more delightful holiday can be spent than in retracing with the author these walks and drives to the homes and haunts of America's best loved writers. Fortunately, they are not scattered through the length and breadth of the land, but are almost within speaking distance of one another. Each is full of the personality which made it famous, and even on a first visit seems familiar, as if the traveler had been there many times before. No other guide than this book is needed, and one will go home to read again with increasing delight the authors he has known from childhood.

SCHOOL CIVICS, by Frank David Boynton, Superintendent of Schools, Ithaca, N. Y. $1.10 by mail. Ginn & Co., Boston.

An historical sketch of the growth of national, state, local, and municipal government in this country from colonial days to the present, with a brief history of the leading political parties. The author has admirably succeeded in his aim to furnish a book on civics that can be readily understood by pupils in the higher grammar grades or in the first years of the high school, and that is at the same time accurate and interesting. The bibilography included should prove a valuable stimulus to wider reading on the subject.

THE RIGHT LIFE, by Henry A. Stimson. $1.20 net. A. S. Barnes & Co., New York.

With the growing feeling that some kind of religious and moral instruction is needed in our public schools has come the publication of many books designed to meet this need. "The Right Life" is one of the best which has been brought to our attention. The standard it upholds is a high one, but it is not austere. It attracts while it points the way. The youth who reads it must feel that he has been shown the best things of life and gain a new impulse to attain them.

THE MANAGEMENT AND TRAINING OF CHILDREN, by William J. Shearer, PD. D., Supt. of Schools, Elizabeth, N. J. $1.50. Richardson, Smith & Co., New York.

It is easy to see that the author writes out of the fullness of experience, not only with his own children but with those of others. His book is full of valuable suggestions to teachers and parents as to the best ways of dealing with many types of children, from infancy through the period of adolescence. The chapter urging that parents should study the physical organism of the child and shape their training accordingly is of special value.

PEDAGOGUES AND PARENTS, by Ella Calista Wilson. $1.25 net. Henrt Holt & Co., New York.

Most books on education are written from the point of view of the teacher who must first of all maintain a successful school. Not so "Pedagogues and Parents." It is a strong plea for the individual child, that his needs be considered, his nature studied, and that above all things he be kept out of the common mould which would make him the intellectual duplicate of all other children in the same grade. While there is much to be said for the teacher who must often do as she can rather than as she would, such books hasten the day when no teacher will have charge of more than twenty pupils at once and will thus be able to consider the special needs of each.

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"Edwin, when you and your brother fight so much, who generally whips?"

Edwin gave a little wriggle, at if in sympathy with the memories of recent occurrences, and said, resignedly :—

"Mother!"—*Philadelphia Press.*

We would remind our subscribers that the SCHOOL PHYSIOLOGY JOURNAL is issued only during the ten months of the school year, from September to June inclusive, no numbers being published for the months of July and August. Subscriptions to begin with the September issue should be received not later than August 15.

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The American Anti-Saloon League is doing good service in striving to bring about a more fitting observance of the Fourth of July. It calls upon churches, Sunday schools, and young people's societies to unite in freeing this national day from the drunkenness, debauchery and noises which have too often disgraced it, and make it instead a time for inculcating the true spirit of patriotism. It urges that at least a part of the day be spent in listening to patriotic temperance addresses and to inspiring patriotic music. For further information and for suggestions and co-operation, write to Rev. P. A. Baker, Supt., New Hayden Building, Columbus, O.

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